STORAGE

Vol. V. JUNE, 1905 No. 3

DETROIT MEDICAL JOURNAL

The Practitioner's Monthly

CONTENTS:

ORIGINAL

The Individual Element in Hygiene. By RICHARD C. CABOT, M. D., Boston, and PHILIP KING BROWN, M. D., San Francisco. - - 73

The Chemistry of Digestion. By CHARLES D. AARON, M. D., Detroit. - - - - - - 81

The "Inferences" of William Beaumont Concerning Gastric Digestion. By HERBERT M. RICH, M. D., Detroit - - - - - 83

Report of Cases. DR. METCALF'S CLINIC at Harper Hospital, Dec. 7th, 8th and 9th, 1904 - - 88

PROGRAMS

American Climiatological Society 94

Michigan State Medical Society 98

EDITORIAL

"Imprisonment at Hard Labor and Typhoid Fever" - - - 95

The State Meeting - - - 96

The Legislature - - - - 96

MEDICAL PROGRESS.

Origin of Syphilis - - 103

Hysterectomy and Sexual Function 103

Diagnosis of Gall-Stone Disease 104

Gonorrheal Ankylosis - - 104

Urinary Sugars of Pregnant Women 104

News - - - - - - 58

Book Reviews - - - - 69

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Published Monthly by
THE DETROIT MEDICAL JOURNAL COMPANY
103-105 Miami Ave.
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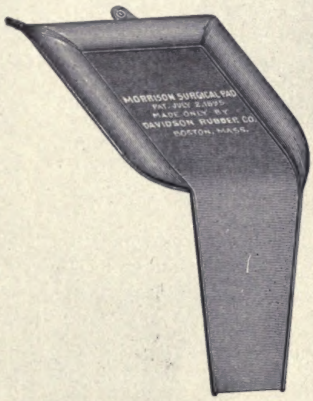

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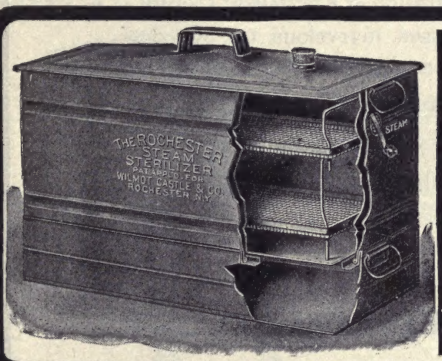

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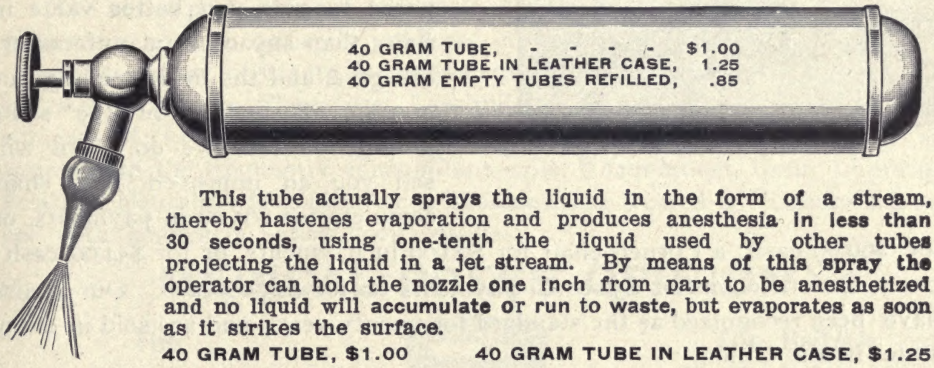

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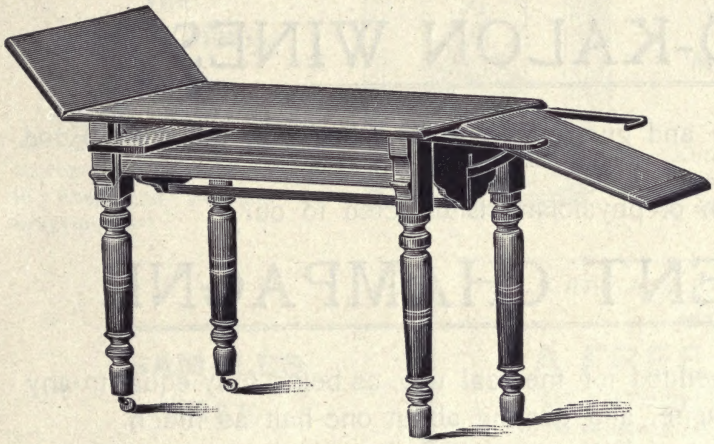

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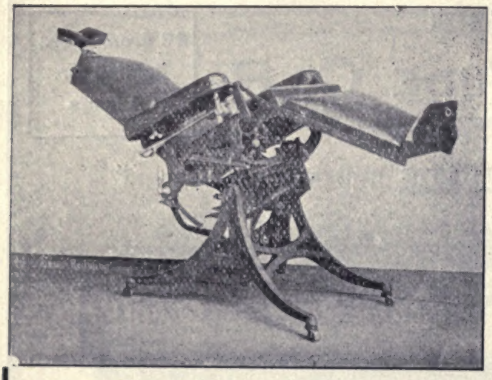

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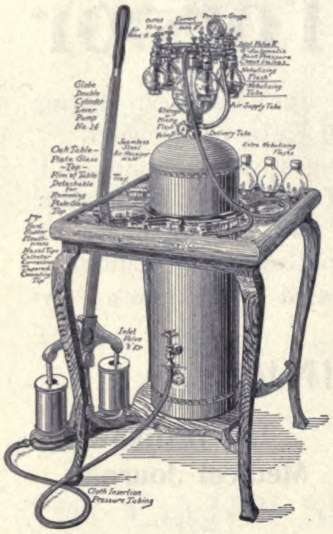

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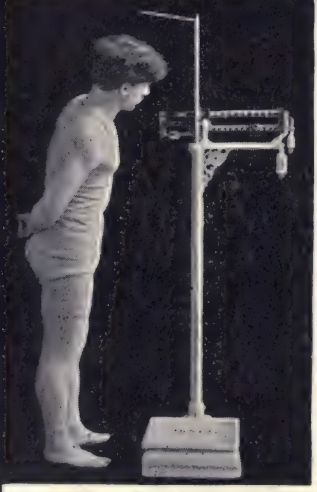

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INDEX TO ADVERTISERS.

Albasulphidi XX
Ambulatory Pneumatic Splint..... XVIII
Antikamnia Chemical Co..... XIX
Antidolar Mnfg. Co..... XXV
Antiphlogistine (Denver Chem. Mfg. Co.) IX
Armour & Co..... XIV
Becton, Dickinson & Co..... XXI
Bovinine Co..... Inside Front Cover
Bristol-Myers Co..... XXIV
Canton Chair Co..... VI
Chesterman & Streeter..... XII
Chloride of Silver Dry Cell Battery Co... XII
Clark & Roberts..... XXII
Cleveland Leather Goods Co..... XXII
Codman & Shurtleff..... XXII
Columbus Aseptic Furniture Co..... XX
Davidson Rubber Co..... II
Denver & Rio Grande..... XXVIII
Detroit and Buffalo Steamboat Co..... XIX
Fellows, Mr..... XXVIII
Fries Bros..... VIII
Gebauer Chemical Co..... V
Globe Mfg. Co..... VIII
Goodrich, The B. F. Co..... XXIV
Grosvenor & Co..... XI
Hartz, The J. F. Co..... V
Hastings & McIntosh Truss Co..... XII
Hussey, E. J. & Co..... XVIII
Jones of Binghamton..... X
Jour. Mich. State Med. Soc..... XXIV
Kny-Scheerer Co..... XVI
Kutnow Bros., Limited..... VII
Kress & Owen..... I
Lambert Pharmacal Co..... Back Cover
Lee, J. Elwood Co..... X
Marks, A. A..... III
Marvel Co..... XVI
McIntosh Electrical Co..... XXVI
Merrell, The Wm. S. Chem. Co..... Inside Back Cover
Pas-Avena Chemical Co..... III
Edward Pennock XXIV
Sidway Mercantile Co..... XII
Smith, M. H. & Co..... IV
Spencer Lens Co..... XXVII
Stearns, Frederick & Co..... XV
Sulfodine XXVI
Swett & Lewis..... XXI
Tagliabue, Charles J..... XVII
Upjohn Co..... XIII
Tokalon Vineyard Co..... VI
Victor Electric Co..... XXIII
Wabash R. R..... VIII
Walker-Gordon Milk Co..... XIV
Western Leather Mnfg. Co..... XXVI
Wilmot Castle Co..... III
Young, F. E. & Co..... XVIII

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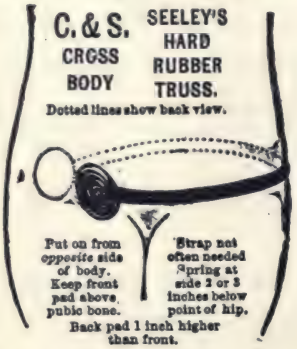
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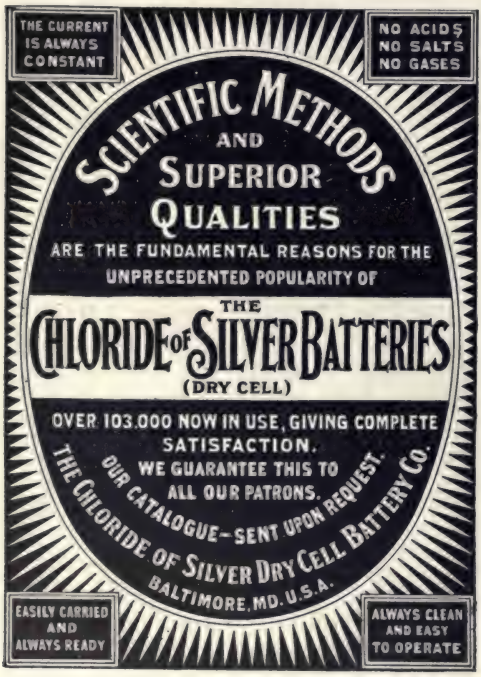
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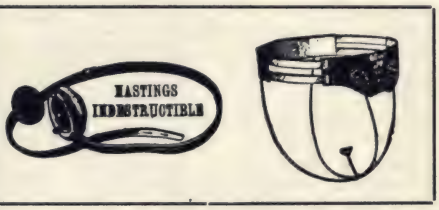

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THE DETROIT MEDICAL JOURNAL.

VOL. V. JUNE, 1905. NO. 3.

THE INDIVIDUAL FACTOR IN HYGIENE.*

By RICHARD C. CABOT, M. D., of Boston,
and
PHILIP KING BROWN, M. D., of San Francisco.

In the prevention and the cure of the vast majority of diseases known to us today our main stay is general hygiene, which may be defined as whatever brings up into the best condition to resist disease.

But what will accomplish this end? What is positively known today about personal hygiene? We know a good deal more than we did about public hygiene—about water supplies, food adulteration and the like, but in regard to personal hygiene, diet, exercise, rest, bathing, we are now in one of those periods which occur not infrequently in any growing science—a period when we known considerably less than we used to—or rather than we used to think we knew. Our long-venerated hygienic dogmas are being analyzed back into their constituent prejudices and superstitions, and no new ones have yet gained currency or confidence.

Is hygiene a set of rules valid for all? A set of averages obtained by the erasure of individual differences? We think it can be shown that the only rules valid for all are so vague as to be almost useless. We can say that a man must eat something and sleep sometimes, but if we try to advance beyond these ludicrously vague generalities we find ourselves at once on very uncertain ground.

If, on the other hand, we try to state the matter in terms of averages we are not likely to get useful guidance for any particular individual. It is like averaging on a map the routes of all the transcontinental roads; the resulting line would run across the country and at about its middle, but would not afford you or me any assistance in finding the best route for our own travels, whatever they may be.

I.

Suppose you went to a general information office, such as Raymond's or Cook's, and asked: "What's the best railroad to travel on?" the clerk would very naturally reply: "That depends on where you want to go." The individual desire is the first and decisive factor, and to attempt to ignore it is folly. But the attempt to answer the question: "What railroad should I travel on?" without knowing where the questioner wants to get to, is no more absurd than the attempt to tell a man the best rules of hygiene without first knowing what kind of life he wants to lead. "Good morning, Colonel," said the stranger on a visit South, "How do you feel this morning?" "How do I feel, sir" (said

*Read before the Chicago Medical Society, March 22, 1905.

the Colonel), "I feel like the devil, sir, as every gentlemen should, sir, in the morning."

Note the individual factor in the Colonel's hygiene, the individual modification imposed on his rules of living by his general ideal of the position of a gentleman. This is the first of the individual factors in hygiene to which we wish to direct attention—the factor introduced by the man's aim in life—the destination at which he wishes to arrive. Knowing that a man wants to go to San Francisco as cheaply as he can you may be in a position to offer him some advice as to the best means of fulfilling his desire; otherwise it would be absurd to try to advise him. "If you want to get the most work out of yourself and keep yourself always at your best I should advise you not to drink and to smoke." "Oh, but I don't care at all to get the most work I can out of myself," your patient may (and not infrequently does) reply. "I want to have more variety, more fun in my life than a mere working machine has."

Hygiene is a branch of ethics and like ethics finds the ultimate warrant for its "Thou shalt" and "Thou shalt not" in the ideals of the individual.

II.

A second set of individual factors is introduced as soon as we begin seriously to consider the differences of race, climate, occupation, age and sex. This is more familiar ground. We are pretty well accustomed in our practical dealings with patients to modify or restate the traditional canons of hygiene in accordance with the differences just mentioned. We know in a general way that the hygiene of men differs from that of women and we have begun to recognize a hygiene for children which takes account of other differences besides those of weight. We recognize (though our school boards do not) that young children ought to be allowed a very large amount of running about, climbing, yelling, and other exercises of large groups of muscles rather than the minutely focused activities that "wag the tongue and wag the pen," as Stanley Hall says. Yet we recognize that the same amount of violent exercise would probably be bad for an adult and that in all probability no adult except a maniac would attempt it.

Deeper study will we believe carry these distinctions much further. We shall grow to be less local, less parochial in our views of hygiene and recognize a hygiene for Caucasions, a hygiene for Orientals, a hygiene for brain-workers, a hygiene for adolescence, and one for those who have reached Osler's age of chloroform; very possibly one for San Franciscans and one for New Yorkers. All this is more or less a matter of guess work and prophesy, but already our knowledge has gone far enough in this direction to make some of the text books of hygiene smack ludicrously of the town that produced them. The German text books are unmistakably German in their point of view and yet undertake to dogmatize for us all; no doubt ours sound as strange to them.

We shall allude but for a moment to the extraordinary disregard of individual differences that is apt to afflict those physicians who are themselves strongly individual in their hygienic habits. The physician

who finds that coffee disagrees with him is apt to preach a crusade against all users of coffee and proclaim it rank poison. The doctor who happens to need no exercise is tempted to assume that all exercise is a fad, and so on.

But we pass on at once to another class of differences—dependent not, like my first type, on our conscious ideal of life, nor, like my second, on environment and circumstances, but on certain characteristics which seem to be inherited, yet which we are often very backward in discovering. We shall try to exemplify some of these differences in each of the following matters:

1. Sleep.
2. Waking up.
3. Work.
4. Rest.
5. Exercise.
6. Food.
7. Tests of Health.

1. Sleep.

(a) The average Caucasian has come to take his sleep in one dose and his food in several; but the American Indian often takes his sleep in divided doses and sometimes takes his food in one. Here is an interesting difference in hygiene. How common each of the two methods is seems to me a question on which considerable statistical study might profitably be spent. Some persons habitually wake up in the night, get up, do a bit of work, and then go to bed again. The mid-day siesta so commonly taken in the tropics is another example of divided doses of sleep.

(b) The total dose of sleep necessary is a matter on which there are so far as we know very few statistical data. It is common belief that women need more sleep than men, but it is hard to find a statistical backing for that statement.

(c) What preparations are necessary if we are to secure good sleep? Certain persons, if they are to sleep well must arrange that the vigor of their activities shall taper off and not rise in a crescendo as the evening goes on. Others do not find this so.

There are many other interesting questions about sleep to which we have no time to allude here.

2. Waking up.

One of the most interesting individual differences concerns the simultaneity or lack of simultaneity with which the different organs wake up. In some persons the brain seems to wake before the stomach; in others the stomach gets ahead of the brain, while in a third group the organs wake all together. Some have to wake their systems up by using dumb-bells, some by drinking coffee, some by work. Habits of course plays a large part. One who is used to breakfast at eight and is forced to breakfast at three or four a. m., may find that his stomach is not awake and being unready for its work does it so badly that indigestion results. Very possibly the rise of the "no breakfast" idea is due to the fact that some persons' stomachs (or general metabolic processes) can not be wakened except by work; it is probably a matter of individuality, but we need a great deal more statistical evidence on this point.

People differ enormously in regard to what time of day they become so thoroughly wide awake that they can do their hardest work. Whether a brain worker should do his hardest work in the morning or later in the day is a matter which we hope to investigate statistically and in comparison with tasks of other kinds. We have been told that marksmen shoot more accurately after luncheon than before.

3. Work.

We believe that it is not sufficiently realized that work is a great, if not the greatest factor, in keeping us well. Physicians sometimes tell a man to give up work without realizing that they are compelling almost as serious a change as if they told him to give up eating. To take away a man's work is almost as serious a thing as to take away his food. We may feed him by some other channel. So may we send him on a vacation and try in this way to make up for the loss of that nutrition which comes to him by work; but often good working of the organism is not secured in this way. It may be as hard to accustom him to loafing (and as unnatural) as it is to rectal feeding. Nervous patients sometimes say: "I don't feel fit to work" and the answer is "You will never be fit to work if you wait till you feel like it. The only thing that will make you feel better is the tonic and stimulus of getting to work." This is true not merely in regard to neurasthenic cases. Balfour, the recent Premier of England, was miserable physically until he was induced by a wise physician to take up his present strenuous work.

4. Rest.

Of the many problems about rest and recreation we will cite but one. Is it not true that persons may be divided into two classes expressing individual differences, according as they can rest by change of work, going from work to another, or cannot? There is nothing more important than for a man to find out early in life to which of these classes he belongs.

5. Exercise.

Almost all doctors prescribe exercise. How many healthy doctors ever take any? Did it ever occur to you to ask whether there is any word in any language other than English which corresponds to "exercise" in our sense? We can think of none in French, German or Italian, and we are interested to know whether exercise, like athletics, is an Anglo-Saxon peculiarity. Other languages have words that seem to us to translate it after a fashion, but not very precisely. If this is true we think it is a very important hint to take account of.

Some of the older men here may remember Bleakie's book, "How to Get Strong," a book much in vogue fifteen years ago. It dealth with the question of exercise on the assumption that to "get strong" is the same thing as to develop muscle. In fact the book should have been entitled "How to Develop Muscle." But we know that a man may develop muscle to any extent and yet have no health. We knew a man in college who developed by gymnasium work the most extraordinary set of muscles that we have ever seen except on Sandow, yet he was never well or healthy and never could put through

any piece of prolonged, hard work, mental or physical. As soon as we realize that to be strong and healthy is not the same thing as to increase the size of our muscles, the individual element in exercise becomes more and more prominent. If one could prescribe gymnasium exercise to increase muscle and thereby health, the individual element could be largely disregarded, but when one recognizes that the muscular individual is not necessarily healthy, the individual element in the choice of exercise comes to the fore. Some persons enjoy pulling chest weights, and are benefitted by it (perhaps because they enjoy it), but the vast majority of people would rather be put to penal servitude than pull chest weights, and in such persons it certainly may do harm. We need to take that crude product which we call "exercise" and smelt out of it what is of value. We believe that the more fully it is analyzed the more the individual factor will be recognized. Is it deep breathing, vigorous heart action, profuse perspiration, that is that valuable element? Is it relaxation, enjoyment, change of mental attitude? Is it the amount of fresh air breathed in? One thing we believe is demonstrably true in most persons, viz., that in valuable exercise there is no self reference. Attention is turned away from self. In exercise which you enjoy that is the case. But many exercises prescribed, as for example the Swedish system or any other system of gymnastics, calisthenics, etc., which is done for exercise and not for fun, direct the person's attention to himself and thus in a large proportion of cases neutralize any possible good to be accomplished through them.

6. Food.

First, in regard to the amount. The vast majority of us have the idea that when the patient is run down we should feed him up. But the recent investigations of Prof. Chittenden should certainly make us more doubtful of the value of feeding persons up. Prof. Chittenden has shown that Voit's diet-tables can no longer be regarded as a standard for all persons. Some persons on a diet containing a very much smaller amount of proteid and possessing a lower calory value do not only as well but apparently much better. We are not arguing that the diet used in Prof. Chittenden's experiments is right for all of us, but merely that he has directed attention to important individual differences. Apparently certain persons are better off on what is practically a vegetarian diet. Let those who find it to be good for them, adopt it, though they need not mount to the housetop and proclaim that every one must follow that diet or be damned. The brilliant work of the Russian physiologist, Pawlow, emphasizes in another way the same point; he shows that the dog's gastric juice will not flow if the animal has no taste for the material offered it.

In regard to the use of water, many rules seem to be constructed in the following way. A person comes to us, in ill health; we find that he drinks very little water. We prescribe water; he gets better, and we then formulate the rule that the ordinary man should drink more water. But if we should investigate not the hygienic failures who come to doctors' offices, but the people who are strongest, and healthiest, we

should probably find that many of them drink very little water or liquid of any kind, very much less than we, as physicians, are in the habit of saying that people must drink to be well. We believe that this is an individual matter and that no invariable rule can be laid down.

7. Tests of Health.

We are very much in need of tests of the degree of health, tests that will show a supposedly "healthy" person, whether he is below par and if so how much. In such cases individual differences are likely to count a great deal. Some persons are to be considered well if they eat well and sleep well and feel well. For others these tests are not sufficient. We have noticed in quite a number of persons that information of some value can be obtained by noting the degree of infection of their hang-nails. Everybody has some hang-nails, but when the individual is below par, they begin to get inflamed. Another possible test is the condition of the reflexes, some of the minor reflexes, especially. In the last report of Phipps Institute for Tuberculosis there is an account of the reflexes of tuberculous patients, especially the hypothenar reflexes. One of us has watched in himself for some time the condition of this reflex as compared with his own general condition, and we are beginning to watch it in some other persons as well. One of us finds that when he loses sleep or is overworked, this hypothenar reflex comes out very prominently (scratching the ulnar side of the forearm with a pencil makes the abductor minimi digiti stand out). When he is in a first rate condition it cannot be brought out. Perhaps certain individuals can measure their condition by noting the condition of their reflexes.

We have endeavored to remind you of a large body of facts which indeed are common knowledge or common ignorance, but which are not always in that foreground of our minds whence action issues. These facts exemplify the individual variations dependent:

(a) On our chosen plan of life.

(b) On our environment, age, sex and occupation.

(c) On our inherited or acquired temperament, taste and bent.

(d) On the selective bent of our individual tissues, which make a certain amount and kind of rest, exercise, food, sleep, suit us as they do no one else.

III.

Now are these differences of individuality such as to preclude the possibility of framing any set of requirements for health, such as our hygienic books have usually contained? A "required course" for health, we answer, like required courses in college, will soon become extinct, but a group-elective system will remain. From among a group of possible ways of being well each man will have to choose one by instinct and experiment. For example you belong either to the group of those who can rest by change of work or to those who cannot; instinct and experiment will enable you to judge. You are either a no-breakfast man or you are not, and so on.

To work out the actually existing and practicable methods of keeping well, at or near which each man is likely to live is the job to which

we propose to devote a good deal of time and money during the coming years. We propose to collect, if we can, the statistics of the actual habits of 50,000 healthy Americans, the healthiest that we can get in touch with through physicians and other intelligent persons in different parts of this country.

How has hygienic success been actually achieved? What methods of keeping well are the most often successful in this country at the present time?

Imagine, for example, that statistics should show that 80% of healthy Americans eat 3 meals a day, 5% eat no breakfast, and 4.5% no lunch, while only ½% skip the evening meal. It would hardly be worth while to experiment much with a no-dinner plan, but one might want to find out by experiment whether one is better without breakfast or without lunch. If it should turn out to be true that ½ the healthiest people to be found eat meat but once a day, while a third eat it twice and the balance three times a day, one would wish to try these experiments, but would not consider it worth while to try eating no proteid whatever, nor making one's diet exclusively proteid.

In colonial days when our race was more homogeneous and the range of our possible activities more limited than they are now, the variety of hygienically successful methods of living may very well have been fewer. Just as all gentlemen were in colonial times of one religion and belonged to but 2 or 3 professions so it may very well have seemed as heretical to speculate or experiment in hygiene as it was in religion. Authority decided such matters.

Now with the freedom of conscience and the right of private judgments in politics and religion, are coming, we believe, the right and the duty of the individual layman to prevent disease in himself by working out for himself his own method of keeping well.

Anyone who has watched himself carefully must have noticed how sharp and clean-cut his individual limits are. You can walk easily for miles just inside your individual limit of strength, but if anyone pushes you even a little way beyond it, you are tired in 15 minutes. It will tire you almost as much to have to hold your pace down to that of a slow walker as it would to hurry after the champion pedestrian. By instinct and experiment you find your proper pace and then it varies little for years. So it is with sleep, food, recreation. You can work for months just within your normal sleep limits, but if you cut down sleep even ½ hour a night below your limit it will show at once in the quality of your work, if not in more obvious forms of ill-health.

The individual's best path of life, then, is sharply marked out and not difficult for him to determine. But it may be almost impossible for any outsider to determine it even if the outsider is a physician. Suppose someone else tried to decide for you how fast you should walk, what the natural swing of your gait should be. He might by very careful and constant observation of your various paces come fairly near the right one, but it would be a great waste of energy for a result only approximately correct.

The individual should be urged to find for himself how to keep well. We count it a great misfortune or disgrace if an American arrives at manhood without knowing the 3 R's., but we think it needs only a little reflection to make us realize that it is a far worse calamity to grow up without knowing what rests you, whether change of work is your best recreation, whether you are better with a low proteid diet, a low or a high intake of water, and what your avocation (or hobby) is.

Have you not sweated blood in the attempt to discover for a man of 40 what his proper avocation is, or for a woman of 35 what is her proper work? And as you labored has it never aggravated your toil to recognize that this job should have been done by the patient himself years before?

To find out for another man how he ought to live is as awkward as to tie his necktie for him. You can do it somehow or other but he can feel his way and adjust his motions much more accurately himself.

The individual factors in hygiene are so many and so essential that in the great movements of preventive medicine it is the layman who with some general guidance must work out the salvation that will make for the best hygiene in the future.

We are aften told that doctors should prevent disease instead of trying to patch up the poor wrecks who exemplify the sad results of long years of hygienic failure. But we do not believe that the most important work in this line can be done by the doctor. It is a waste of energy for him to attempt it in most cases, and moreover, the educated layman will more and more resent the attempt.

We believe it will not be long before it will be held as presumptuous for us to attempt to prescribe a man's best way of living by general rules, as it would be for us to prescribe his political or religious opinions. Private judgement and unwillingness to submit to authority will spread to this sphere, nay have spread far in that direction already.

We wish to recur for a moment before finishing to our own plans. Our belief is (as we have tried to indicate) that the hygiene of the future will be not a series of commands "thus do or thou shalt die," but a map showing a number of practical roads, each preferred and found satisfactory by a group of persons of a certain build, a certain ideal of life, a certain inherited and acquired "set" in their tissues. "On or near some of these roads," we shall say, "you will probably travel. Look them over as you do in choosing a profession, a house or a town to settle in. Find out which suits you best and follow it."

Now our ambition is to assist in the construction of this map, to find out by the collection of a large body of statistics of healthy people what workable sets of habits now exist in regard to food, water, exercise, sleep, work, recreation and the rest. Such a map of passable roads will not bind the individual to walk on any one of them but if he wishes to roam in the fields or ditches he will at least be conscious of what he is doing and where the ordinary roads are in case he cares to return.

To collect a body of statistics on which such a map can be based will need the co-operation of many intelligent persons all over this coun-

try, and later we shall be asking many of you gentlemen to co-operate with us in the task.

THE CHEMISTRY OF DIGESTION.*

By CHARLES D. AARON, M. D.,
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The first definite knowledge we have of the chemistry of digestion is the work of William Beaumont (1), a surgeon in the United States army who made his observations on a young Canadian, Alexis St. Martin, who from an accident, had a fistulous opening in the stomach through which Beaumont was able to watch the process of digestion and remove the gastric juice for analysis.

Until the establishment of the theory of chemical solution by Spallanzani, it was supposed that digestion was some sort of putrefaction, trituration or maceration. Spallanzani taught the solvent action of the fluid secreted by the stomach. It was he who gave the name gastric juice to this fluid. Beaumont proved that the secretion of the stomach was able to dissolve certain foods and he showed that the gastric juice contained free acid. He collected the gastric juice and repeatedly examined it and to confirm what he found he sent a sample of this liquid to Professor Dunglison, professor of chemistry in the University of Virginia, and to others for analysis. Professor Dunglison reported that the sample examined contained free muriatic acid and acetic acid, phosphates and muriates, with bases of potassa, soda, magnesia, lime and an animal matter, soluble in cold water, but insoluble in hot water.

The proof of the existence of pure hydrochloric acid in the juice of the stomach we owe to Beaumont. Very little of the chemistry of digestion was accomplished after 1834, when Beaumont wrote his book on the "Experiments and Observations on the Gastric Juice and Physiology of Digestion," until 1867 (2), when the stomach tube came into use.

In 1875, Ewald (3) introduced the soft rubber stomach tube, which enabled us to remove the stomach contents with ease. From this time the chemistry of digestion made rapid progress, as many investigators began to work on its development. It was not until 1885 that the experiments of Beaumont were really confirmed and we could say absolutely that there was a free acid in the gastric juice. We are now able to demonstrate accurately, up to certain limitations, the chemistry of digestion.

We owe much to Pawlow (4), of St. Petersburg, who has recently done a great deal of experimental work on the chemistry of digestion. The reaction of the saliva is alkaline and ptyalin is active in an alkaline or neutral medium. Free hydrochloric acid in the stomach inhibits the amylolytic action of the saliva. Chittenden Smith concludes on the action of acid on the amylolytic power of saliva as follows: "The most favor- enzymes and are converted into active ferments by hydrochloric acid. Hydrochloric acid will convert inert pepsinogen and renninzymogen into active ferments, pepsin and rennin, in less than one minute. Lactic acid

*Read before the Detroit Academy of Medicine, January 24, 1905.

able condition for the diastatic action of ptyalin, under most circumstances, appears to be a neutral condition of the fluid together with the presence of more or less proteid matter. The addition of very small amounts of hydrochloric acid to dilute solutions of saliva, giving thereby a small percentage of acid-proteids, appears to still further increase the diastatic action. Under such conditions a minute trace of acid appears to further increase the action."

In the stomach the fundus is never as acid as the pyloric portion. This fact enables salivary digestion to continue in the fundus for some time before there is free hydrochloric acid present. This has been made use of in making a diagnosis of the part of the stomach involved in carcinoma. If a palpable tumor be found and the stomach contents give a reaction for free hydrochloric acid it is assumed that it is a carcinoma of the pylorus, as a tumor inhibits the secretion of the glands in the part involved. If hydrochloric acid be absent this would be suggestive of cancer of the small curvature.

When we have an excessive acidity of the gastric contents, due to some pathologic disturbance, the pyloric sphincter and antrum are apt to contract together, which usually causes gastric colic. It has been shown that free hydrochloric acid and not an enzyme causes the inversion of cane sugar in the stomach.

Pawlow has proved that the reaction of the food influences the closing and relaxation of the pyloric sphincter. Free hydrochloric acid in the stomach opens the pylorus. This acid acting on the intestinal mucosa reflexly closes the pylorus. Just as the pylorus closes, the pancreatic juice and bile gradually neutralize the acid chyme and this allows the free acid in the stomach to again open the pylorus and a new supply of the stomach contents enters the duodenum. On account of this great acidity the intestine is never overburdened with too much food at one time. Just as soon as a certain amount of the acid stomach contents enters the duodenum the pylorus closes to prevent any more from passing through until the pancreatic juice has had time to act upon the food in the intestine. Proteids take up a great deal of hydrochloric acid and require a longer time to give a reaction for free hydrochloric acid than the carbohydrates. For this reason the pylorus opens sooner after a carbohydrate diet than a proteid diet.

This knowledge is extremely valuable to us in the treatment of disease. In cases where hydrochloric acid is secreted in insufficient quantity the patients are susceptible to diarrhea. We reason that when the pylorus relaxes and allows the stomach contents to empty itself into the duodenum, there is not enough acid in the duodenum to reflexly close the pylorus, and thus the duodenum is over-burdened and the intestinal mucosa is irritated, which leads on to a condition that superinduces a chronic diarrhea. The acid chyme poured into the duodenum stimulates the flow of the pancreatic juice. The emulsification of fat in the intestine can only take place in an alkaline medium.

It is exceedingly interesting to know that pepsin and rennin in the stomach contents are not secreted as such, but are secreted as pro-

is not secreted in the stomach. If found it is either introduced as such in the food or it is the result of fermentation. Lactic acid fermentation takes place easily in carcinoma of the stomach, especially when there is an obstruction at the pylorus. When the motility of the stomach is not involved there is no lactic acid present. Lactic or any other organic acid is not a normal constituent of the gastric juice. Organic acids are found in abundance in the upper part of the small intestine.

It is a peculiar fact that the ferments stored up in the pancreas are inactive zymogens. It seems that the intestinal juice has the power of converting the proenzymes of the pancreas into active ferments. It has been repeatedly demonstrated that the juices taken directly from the pancreas lack the proteolytic power which is usually found after they have come in contact with the succus entericus. If a pancreas be chopped up and one-half of its juice be tested for its proteolytic power, without coming in contact with the intestinal juice, and the other half be tested after it has come in contact with the intestinal juice, the proteolytic power of the latter is astonishing. The intestinal juice has the remarkable property of activating the inert trypsinogen into active trypsin by a ferment called enterokinase.

The secretion of the pancreatic juice is stimulated by a substance called secretin. The acid from the stomach produces this secretin in the intestine from some unknown substance and this secretin is absorbed and has the power of stimulating the secretion of panocreatic juice. This can be accomplished by injecting secretin hypodermically, but is apt to produce ulceration of the intestine.

1. Beaumont, Observations on Gastric Juice, 1833.
2. Kussmaul, Ueber die Behandlung der Magenerweiterung durch der Magenpumpe, 1867.
3. Ewald, A Ready Method of Washing Out the Stomach, 1875.
4. Pawlow, Die Arbeit der Verdauungsdrüsen, St. Petersburg, 1898.

32 Adams Avenue West.

THE "INFERENCES" OF WILLIAM BEAUMONT CONCERNING GASTRIC DIGESTION.

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Detroit.

The epoch-making book of William Beaumont entitled "Experiments and Observations on the Gastric Juice and the Physiology of "Digestion," was published at Plattsburg, New York, in 1833. At the conclusion of the volume Beaumont gives fifty-one "Inferences from the foregoing Experiments and Observations." These "Inferences" contain the major conclusions at which he arrived after several years' experimentation upon Alexis St. Martin, the back-woodsman, who had a gastric fistula. In order to appreciate what radical advances were really marked in gastric physiology by his labors, it has seemed to the writer worth while to compare his writings with contemporary statements on the same subjects.

For this purpose, "The Principles of Medicine, Founded on the Structure and Functions of the Animal Organism," by Samuel Jackson, M. D., Assistant to the Professor of the Institutes and Practice of Med-

icine and Clinical Medicine in the University of Pennsylvania, was taken as the most representative book of the time. It was published in 1832, and consequently antedated Beaumont's publication by only one year. The volume was widely used in America as a text-book of physiology and may probably be said to represent quite correctly advanced medical opinion of those days. As we contrast the statement of the two books, one gets a better idea of how thickly the mists surrounded the subject of gastric digestion and how clear and strong was the flood of truth which Beaumont cast upon it.

So little was actually known to be true concerning the physiology of digestion that no theories had been offered about many of the details recorded in the "Inferences," and first observed by Beaumont. His conclusions are given in order as he numbered them, and statements on the same subject by Jackson follow in smaller type.

Inferences from the foregoing experiments and observations.

1. That animal and farinaceous aliments are more easy of digestion than vegetable.

2. That the susceptibility of digestion does not, however, depend altogether upon natural or chemical distinctions.

3. That digestion is facilitated by minuteness of division and tenderness of fibre, and retarded by opposite qualities.

4. That the ultimate principles of aliment are always the sam, from whatever food they may be obtained.

5 That the action of the stomach, and its fluids are the same on all kinds of diet.

6. That the digestibility of aliment does not depend upon the quantity of nutrient principles that it contains.

7. That the quantity of food generally taken, is more than the wants of the system require; and that such excess, if persevered in, generally produces, not only functional abberation, but disease of the coats of the stomach.

8. That bulk, as well as nutriment, is necessary to the articies of diet.

9. That oily food is difficult of digestion, though it contains a large proportion of the nutrient principles.

10. That the time required for the digestion of food, is various, depending upon the quantity and quality of the food, state of the stomach, etc.; but that the time ordinarily required for the disposal of a moderate meal of the fibrous parts of meat, with bread, etc., is from three to three and a half hours.

11. That solid food, of a certain texture, is easier of digestion, than fluid.

12. That stimulating condiments are injurious to the healthy stomach.

13. That the use of ardent spirits always produces disease of the stomach, if persevered in.

14. That hunger is the effect of distention of the vessels that secrete the gastric juice.

15. That the processes of mastication, insalivation, and deglutition, in an abstract point of view, do not, in any way, affect the digestion of food; or, in other words, when food is introduced directly into the stomach, in a finely divided state, without these previous steps, it is as really and as perfectly digested as when they have been taken.

16. That saliva does not possess the properties of an alimentary solvent.

17. That the first stage of digestion is effected in the stomach.

18. That the natural temperature of the stomach is 100° Fahrenheit.

19. That the temperature is not elevated by the ingestion of food.

"The food in the stomach is supjected to a temperature of from 100 deg. to 102 deg. Fahr. This circumstance, and the constant agitation it experiences, are important aids in indigestion. At the same time, a constant supply of the fluids concerned in digestion, is an indispensable requisite for its regular performance."

20. That exercise elevates the temperature; and that sleep or rest, in a recumbent position, depresses it.

"Fibrin is more nutritive and exciting than gelatin or albumen; Its digestion is always attended with heat."

21. That the agent of chymification is the gastric juice.

"Such being the character of chymification, it remains to be examined, what are the means effecting this process. Various conjectures have been resorted to for an explanation of the phenomena of digestion. Putrifaction, maceration, trituration, fermentation, and solution, have each been suggested as the means of its performance; they have each, in turn, possessed their advocates, and enjoyed for a term a certain celebrity. In the received systems none of them are admitted as entering into the process of digestion. Spallanzani, it is supposed, successfully rebutted the pretensions claimed for them; and, amongst the majority of physiologists, his hypothesis of a specific solvent gastric juice is generally adopted.

Chymification would, then, be a purely chemical operation, having a strong analogy to the chemical analysis by which substances are reduced to their proximate elements.

"The existence of a special fluid, possessed of solvent powers, and accomplishing digestion, is an hypothesis assumed, rather than a demonstrated fact. Spallanzani having, by his admirable experiments on digestion, attempted to disprove the, then, admitted doctrines of trituration, maceration, putrification, etc., as the efficient agents of digestion, imagined a peculiar fluid, he named gastric juice, as the means of its performance. This fluid, he conjectured, acted in the manner of a chemical solvent, was always identical, and accumulated in the stomach during fasting. This hypothesis was very generally received, is adopted by most physiologists of the present day, and often governs the practice of physicians in the treatment of indigestion; yet, it cannot be denied, that the evidence on which it reposes is slight and inconclusive. Its correctness has been challenged, first, by M. de Montegre, and subsequently, by M. Chaussier, whose experiments and observations are conclusive against the existence of a gastric juice, such as is supposed by Spallanzani.

Many attempts have been made to analyze the assumed gastric juice, and to determine its specific characters, but they have all failed in the contemplated object. M. de Montegre, who was gifted with the power of evacuating his stomach at leisure, and could, thus, collect the fluid of the stomach, found it to differ very little from saliva. When it was not acid, it, then, resembled perfectly pure saliva; and when it was acid, it appeared merely as a modification that fluid had undergone in the stomach. Tiedemann and Gmelin, in their highly interesting researches on digestion, renew the doctrine of Spallanzani, and suppose a special fluid to be secreted by the stomach during the act of digestion, by which the aliment is dissolved. This inference is adopted from the small quantity of fluid found in the stomach after prolonged fastings and its acid character, when its secretion has been excited by mechanical irritation, or the stimulus of aliment;

a character that does not belong to saliva. Notwithstanding the authority of those able investigators, sustained also by the similar opinion of MM. Leuret and Lassaigne, I am still disposed to doubt the reality of a special gastric fluid, and to regard the assumed gastric juice as no other than the saliva, swallowed and mixed with the secreted mucus and exhaled fluids of the mouth, pharynx, aesophagus, and stomach.

"From the villi, a fluid, said to be albuminous, is exhaled; and the follicles secrete mucus. No other source of a gastric fluid exists than these, and they do not appear to be different from the same structures, in other portions of the mucus tissues. This circumstance renders exceedingly equivocal the existence of a specific gastric juice, the pretended solvent of food. It would be a perfect anomaly in the economy of nature; for, whenever a fluid having specific properties, and destined to important offices, is to be formed, a complex secretory apparatus is appropriated for the purpose.

It has been conjectured that the saliva proceeding from the different glands, was not exactly the same. This opinion is sustained chiefly on the number of its sources; as it was supposed nature would not multiply the number of glands, when two on each side might have sufficed, if mere quantity was the object. But in the provision of important functions, nature often multiplies the organs, to diminish the risks arising from accidents. Saliva is constantly swallowed, so that the stomach is in some respects, a reservoir of saliva. There is every probability that no other gastric juice really exists than the salivary fluids mixed with mucus, etc."

"From all the researches as yet instituted into the nature of the gastric juice, it does not appear to me, we are authorized to assume the existence of a special gastric juice, endowed with peculiar and solvent properties for the performance of digestion. The absence of a special apparatus for its secretion, has already been noticed as an anomaly; and, it is generally true, that, what are supposed to be anomalies in nature, or violations of a general law, are, in reality, founded in an ignorance of the facts, or on suppositious facts not truly existing. That the saliva, which on the supposition of a solvent gastric juice, would be of no other use than to moisten the food, should have provided for its secretion a large glandular apparatus, while the more important fluid, the gastric juice, should be a mere exhalation, would be an anomaly violating grossly the general phenomena of the animal organism. The presumed gastric juice is, then, we are justified in concluding, no other than the salivary, buccal, pharyngeal, oesophageal, and stomachical follicular secretions and exhalations, collected in the stomach.

Notwithstanding all that has been done in the investigation of this function, chymification is not yet properly understood, and new researches must be instituted before it can be regarded as finally settled. The hypothesis of Spallanzani, of a single and uniform specific solvent juice, producing, with all the varieties of aliment, a single and constant product, has not been sufficiently verified by experiment or observation; it has no analogy in nature; and without far more weighty evidence in its favor ought not to be adopted."

22. That it acts as a solvent of food, and alters its properties.

23. That its action is facilitated by the warmth and motions of the stomach.

24. That it contains free muriatic acid and some other active chemical principles.

25. That it is never found free in the gastric cavity; but is always excited to discharge itself by the introduction of food, or other irritants.

"Now it was observed by Montegre, that the fluid of the stomach was not acid previous to digestion, but that acid was manifested when food was in the stomach, and, consequently, exposed to irritation. Tiedemann and Gmelin confirm this observation, for they found, when the stomach was not mechanically irritated, the fluid in the stomach was often free from muriatic acid."

26. That it is secreted from vessels distinct from the mucous follicles.

27. That it is seldom obtained pure, but it is generally mixed with mucus, and sometimes with saliva. When pure, it is capable of being kept for months, and perhaps for years.

28. That it coagulates albumen, and afterwards dissolves the coagulæ.

29. That it checks the progress of putrefaction.

30. That the pure gastric juice is fluid, clear and transparent; without odour; a little salt, and perceptibly acid.

31. That like other chemical agents, it commences its action on food, as soon as it comes in contact with it.

32. That it is capable of combining with a certain and fixed quantity of food, and when more aliment is presented for its action than it will dissolve, disturbance of the stomach, or "indigestion," will ensue.

33. That it becomes intimately mixed and blended with the ingestæ in the stomach, by the motions of that organ.

34. That it is invariably the same substance, modified only by admixture with other fluids.

35. That gentle exercise facilitates the digestion of food.

36. That bile is not ordinarily found in the stomach, and is not commonly necessary for the digestion of food; but

37. That, when oily food has been used, it assists its digestion.

38. That chyme is homogeneous, but variable in its colour and consistence.

39. That towards the latter stages of chymification, it becomes more acid and stimulating, and passes more rapidly from the stomach.

40. That water, ardent spirits, and most other fluids are not affected by the gastric juice, but pass from the stomach soon after they have been received.

41. That the inner coat of the stomach, is of a pale pink colour, varying in its hues, according to its full or empty state.

42. That, in health, it is constantly sheathed with a mucous coat.

43. That the gastric juice and mucous are dissimilar in their physical and chemical properties.

44. That the appearance of the interior of the stomach, in disease, is essentially different from that of its healthy state.

45. That the motions of the stomach produce a constant churning of its contents, and admixture of food and gastric juice.

46. That these motions are in two directions; transversely and longitudinally.

47. That the expulsion of the chyme is assisted by a transverse band, etc.

48. That chyle is formed in the duodenum and small intestines, by the action of bile and pancreatic juice, on the chyme.

49. That crude chyle is a semi-transparent, whey coloured fluid.

50. That it is further changed by the action of the lacteals and mesenteric glands. This is only an inference from the other facts. It has not been the subject of experiment.

51. That no other fluid produces the same effect on food that gastric juice does; and that it is the only solvent of aliment.

* * * * * * *

It will be noticed in the quotations from Jackson that in spite of

Spallanzani's work corroborated by the experiments of Tiedmann and Gmelin, this distinguished author scouts the very existence of such a specific substance as gastric juice. It is undoubtedly true that the more common conception of stomach digestion was a confused jumbling of maceration, putrefaction, trituration, fermentation and solution. From this Beaumont pointed out the identity of the ultimate elements of food from whatever sources and the specific solvent effect of the gastric juice upon them. Many of Beaumont's conclusions have only recently been incorporated into our text-book teaching.

In brief, it may be stated that the following general truths concerning digestric digestion were made known to us by the patient researches of Wm. Beaumont.

1. That the quantity of food taken is commonly in excess of the wants of the system.

2. The relative digestibility of various articles of diet. In fact, his researches may be said to be still the chief basis of our knowledge on this subject. He gives a long list of foods whose digestibility was noted and timed—the first and almost the only accurate observations of this nature.

3. The deleterious effects on digestion of stimulating condiments and alcohol.

4. Accurate observations of the movements and temperature of the stomach during digestion.

5. Correct estimate of functions of mastication, insalivation and deglutition.

6. Existence and characteristics of a specific gastric juice.

7. Appearance of inside of stomach during process of digestion.

8. Contribution to the digestive action of bile.

9. Disposition of fluids in stomach.

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DR. METCALF'S CLINIC.

At Harper Hospital, December, 7th, 8th and 9th, 1904.

REPORT OF CASES

The following report has been prepared for the benefit of those who attended the clinic, but it is presumed that others may be interested. This report has purposely been delayed that the ultimate result of the means of relief applied in the various cases may be given.

It is fair to say that, in estimating the results attained, no effort at selection of cases was made; for with one exception—a case of acute gonorrheal salpingitis—the whole number of cases presented was operated upon either in the clinic or subsequently and the reports of all are here included.

Classification of Cases.

Total number of cases brought for the clinic	26
Number operated in clinic	19
Number operated subsequently	6
Number not operated upon	1
Males	1
Females	25
Cases having a single operation	13
Cases having a multiple operations	12
(a) At one time	8
(b) At different times	4
Total number of operations	49
Major operations	34
Minor operations	15
Deaths:	
(a) Proximate	1
(b) Ultimate	3
Cured	19
Improved (including Nos. 7, 24 and 25, temporarily)	4
Number of cases demonstrated in clinic, but previously operated upon	4

Nature of Operations.

Cholecystostomy	2
Intestinal fistula, closure of	3
Segregation of urine (Luys' method)	1
Catheterism of the ureter	1
Nephrotomy	1
Appendectomy	2
Exstrophy of bladder, operations for (stages, each a major procedure)	4
Suspension of uterus (Gilliam's operation)	1
Suspension of uterus (Kellogg-Alexander operation)	1
Oophorectomy, abdominal	2
Oophorectomy, vaginal	1
Ovary, resection of	2
Salpingectomy, partial	2
Salpingo-oophorectomy, single	1
Salpingo-oophorectomy, double	1
Hysterectomy, abdominal	5
Hysterectomy, vaginal	5
Myomectomy	1
Cauterization for carcinoma cervicis	1
Curettement	3

Cul-de-sac, drainage of, for puerperal sepsis..... 1
Trachelorrhaphy 1
Perineorrhaphy 3
Colporrhaphy, anterior 2
Anus, partial occlusion, relief of..... 1
Circumcision 1

Other cases demonstrated at the clinic:

Appendectomy and colostomy for colon irrigation..... 1
(Demonstration of irrigation.)
Removal of sigmoid flexure and rectum (with specimen). 1
Cholecystectomy 1
Hysterectomy, vaginal (with specimen, a uterus completely inverted by a slow-growing sub-mucous myoma) 1

Case-Histories.

Case I. **Large dermoid cyst of the ovary, without adhesions.** (Dec. 7th.)

Mrs. H., aet. 25. Father died of apoplexy. Sister had spinal trouble of doubtful nature. Menses began at 13; regular and normal. One child, 3 months old; labor normal; perineum repaired. Had always been perfectly healthy until the eighth month of pregnancy, when discomfort began in left ovarian region and in anterior crucal region. This pain became very severe about 10 days after delivery, and patient had never been free from it since. Temperature, pulse, and blood, normal. Diagnosis, cystoma of left ovary. Operation, Dec. 7th, 9.—9.45 a. m. Disclosed dermoid cyst of left ovary, size of fetal head; also small dermoid of right ovary. Double salpingo-oophorectomy. Pathological report: A remnant of left ovary wa found in the wall of the dermoid. Cyst wall also contained hair, sebaceous and sweat-glands, fibrous tissue, and cartilage. The right ovary was cystic and included at one side a soft mass the size of a walnut, which contained hair, sebaceous material and debris. Its wall contained numerous giant cells.

Reaction temperature, 101, the following morning. Became normal on third day and remained so. The nursing of her baby was interrupted only for two days. Was removed to her home on the 16th; recovery was rapid and complete.
Was removed to her home on Dec. 16th; recovery was rapid and complete.

This case illustrates the fact that there may be extensive involvement of both ovaries in dermoid-cyst formation without rendering the woman sterile. Dermoid cysts may exist for many years with little or no danger to the patient unless infection enters, when they become extremely dangerous. They occasionally undergo maglignant change. Had operation not been performed, there being no adhesions, torsion of the pedicle and rupture would probably have occurred, followed either by general peritonitis or transplantation of the dermoid elements throughout the peritoneal cavity.

Case II. **Multiple Fibroids of the Uterus.** (Dec. 7th.)

Miss M., aet. 43. Family history negative. Menses began at 14; missed 10 months; then flowed every 2 or 3 months and health gradually failed. After 3 years, health began to improve; menses became regular. Are now regular, but flows excessively for 3 days. (If here, the growth were sub-mucous, the hemorrhages would likely be more prolonged. If sub-serous only, the flow would not be increased.) The local pain is severe for a few hours before the flow becomes free. At present there is aching at top and back of the head about 3 weeks of the month; aching across the sacrum, numbness extending down outside of left leg. Constipation, dyspepsia, soreness in lower abdomen, bearing down and dragging sensations in pelvis. Profuse muco-purulent leucorrhoeal discharge. Urine normal; blood normal except for slight reduction in red cells. Diagnosis, multiple intramural fibroids of the uterus. Operation, abdominal pan-hysterectomy with

double salpingo-oophorectomy. Time, 9:45 to 10:45. Highest temperature, 100.2 and highest pulse rate 110. Pulse and temperature normal after Dec. 13th.

Recovery uneventful and she left the hospital Dec. 28th. Microscopical diagnosis, leiomyoma uteri. Description, one main tumor, 18. cm. by 12. cm. by 12 cm. together with four smaller ones, ranging from two to four centimeters in diameter. Cystic distension of glands of uterine mucosa. No extensive epithelial hyperplasia. Moderate increase in fibrous tissue. Both ovaries, considerable hyaline degeneration, this process also affecting their blood-vessels. Marked fibroid degeneration and moderate congestion. Few, if any, Graaffian follicles. The left ovary contained an old follicular cyst of some size. Fallopian tubes essentially normal. Report of family physician, May 25, 1905, says that, except for a slight vesical irritability, her condition is satisfactory. Such reflex disturbance, without infection, is not altogether uncommon following hysterectomies.

Case III. **Dysmenorrhoea; a difficult case cured.** (Dec. 7th.)

Miss K., aet. 20. Family history negative. Menses began at 16. Dysmenorrhoea first day; suffering has gradually increased. For last two years has had to be kept in bed under morphine throughout entire menstrual period. Flow was excessive. Apparently in good health between periods, except for aching in top and back of head and a constant feeling as of the approach of menstruation. Urine normal; blood normal, except for a moderate reduction in hemoglobin. Examination of cervical discharge showed presence of gonococci. Pelvic examination revealed pus discharging from the cervical canal, redness at the mouths of the ducts of the vulvo-vaginal glands, and retroversion of the uterus of the third degree. Operation, thorough cleansing of vagina, curetting of cervical portion of the uterine canal, and disinfection of the latter with pure carbolic acid followed by alcohol before passing dilators. Thorough dilatation of cervical canal by graduated dilators; curettement followed by a disinfection of the uterine cavity with pure carbolic acid and alcohol. Application of silver nitrate, gr. xxx to 1 oz. to entire tract. Shortening of round ligaments by Kellogg's modification of Alexander operation. Incisions in inguinal region healed by first intention. Immediate recovery uneventful. She was kept in bed until Dec. 12st. Vaginal douches of lysol, 1:250, and tampons saturated with 10 per cent ichthyol in glycerin were used. When she left the hospital on the 28th, the uterus was in normal position and she appeared to be well. During January, February, and March periods she suffered as much as before and had to be kept under morphine. Re-admitted to Harper Hospital, March 31st. On April 1st, ether was again administered and a median abdominal exploratory incision made. The uterus was found to be in normal position; uterine canal measured 2¼ inches. The ampullar portion of both tubes was found to be dilated and the walls thickened. The ovarian ligaments were elongated, permitting prolapse of both ovaries. An abnormally large corpus luteum replaced nearly the entire substance of the left ovary. The appendix vermiformis contained concretions and was firmly adherent to the caecum. The appendico-ovarian ligament was large. Operation, appendectomy, left salpingo-oophorectomy, amputation of the ampullar portion of the right tube. Distal end of proximal portion of right tube was split and its mucous membrane everted and stitched to serous covering. Right ovarian ligament was doubled upon itself, drawn up through an opening made in the broad ligament and stitched to the round ligament nearer to the abdominal than to the uterine end of the latter. The ovary was thus held up firmly in position. The uterus was curetted and disinfected. The clitoris was free and the rectum normal. Pathological report: (a) From first operation: Curettings from cervix; Glands hypertrophied but regular. Slight amount of coagulated mucus within the tubules. Round-celled infiltration in the inter-tubular stroma. Uterine curettings; Dilated and tortuous tubules, the epithelium of which appears normal. The inter-tubular round-celled infiltration is more pronounced than in curettings from cervix. (b) From second operation: The left ovary showed many Graaffian follicle cysts. The bulk of the organ, however, was composed of an hemorrhagic corpus luteum about which was increase of connective tissue and filled blood-vessels. The ampullar portion of both Fallopian tubes showed some increase in stroma, infiltration of muscular wall, and other evidences of chronic inflammation. (c) Appendix: Oppo-

site the lodgment of concretion, walls greatly thinned. Lymph nodes were numerous, but no general inflammatory infiltration. Epithelial lining partially destroyed by erosion. The immediate recovery was uneventful. Highest temperature, 100.2; highest pulse-rate, 126. Both were normal after the first week. Wound healed by first intention and patient was able to go to the country on the 19th. Report, May 30, 1905; April and May periods were painless. She took no morphine. She had not, however, as yet regained her full strength.

This patient had been subjected to a specific infection at the age of 18, which had inaugurated active inflammatory changes in organs already congested by their malposition. Drainage by dilation, disinfection, and replacement of uterus, as done in December, seemed a rational treatment. Had this been done earlier, the result would probably have been different. There were no adhesions about the tubes nor ovaries, yet the replacing of the uterus did not replace these congested and infiltrated organs. The corpus luteum of pregnancy remains large for a few months on account of physiological congestion attending pregnancy. Pathological congestions may also apparently induce a similar enlargement and prevent the normal atrophy. I do not know that the method here described, of supporting an ovary by attaching its ligament to the round ligament anterior to the broad ligament, has previously been used. The cure of dysmenorrhoea often involves the correction of many pathological changes, both local and systemic. In this case no medication was used; the environment was the same attending each of her operations.

Case IV. **Pyelitis attending kinking of ureter.**

(a) Segregation of urines by Luys' method. (Dec. 7.)

Miss B., aet. 22. Father died at 40 of alcoholism. One brother died of tuberculosis. Her menses began at 13; normal. One miscarriage, 5 months ago. On Sept 22nd had right kidney fixed in position and hemorrhoids removed. The symptoms preceding this operation were those of intermittent obstruction of the ureter and extreme nervousness. The hospital report upon the urine showed the presence of pus, epithelium, and granular debris. On Oct. 9, 1904, by means of Luys' segregator, it was shown that the pus was coming from the right kidney. The patient being brought into the clinic, the same instrument is now employed to determine the degree of improvement, as was also done on Nov. 7th.

A word regarding the development of this method may be in order. Lambotte in Brussels is said to have been the first to attempt to effect the instrumental separation of urines from the two kidneys, reporting the same in 1890. In 1898 Harris, of Chicago, described an apparatus invented by himself, which has since been used with moderate success by many. Early in 1902 Luys brought out a new separating apparatus. I have found this instrument satisfactory, especially in the female. There is less danger of infecting the kidneys by its use than by catherism of the ureter, but each instrument has its respective advantages. The Cathelin instrument, of more recent invention, has not proved so satisfactory in my hands. No general anaesthetic is required. The patient remains in a semi-sitting position. A 10 per cent cocaine solution is applied to the meatus urinarius.

The mixed urine, taken from this case, shows pus in small quantity, trace of albumin, and 2.75 per cent urea. Methylene blue is now given, five grains in a glass of water, to aid in determining the relative functional capacity of the kidneys. Segregation Oct. 10th gave urine, examination as follows:

From right kidney,	From left kidney.
Amount in 30 minutes, 3.5 c. c.	6 c. c.
Urea, 1.1 per cent	2.7 per cent.
Pus, Considerable.	None.

Casts	Present.	Absent.
Color,	Greenish yellow.	Amber.

On Nov. 7th, findings were similar except that on Oct. 10th the urea excreted in a given time by the right kidney was 24 per cent of that excreted by the left, while on Nov. 10th it had increased to 48 per cent.

In the specimens today there is still a difference in color. That from the left is a deep bluish green, while that from the right is a transparent green. Subsequent examination of the specimens gave, from portions execreted in corresponding periods, the following:

Right kidney.	Left kidney.
8 c. c. 2.35 per cent urea.	7 c. c. 2.96 per cent urea.

These portions were taken in the early part of the observation and it is of interest to note that the mixed urine drawn from the bladder just previously gave a urea content of 2.75 per cent.

The relative improvement over the condition prevailing Oct. 10th is apparent. In such cases, several observations should be made before definite conclusions are drawn. Her treatment has been occasional doses of urotropin and helmitol and large quantities of water.

(b) Catheterism of ureter. (Dec. 8th.)

The specimen of urine thus obtained showed a trace of albumin, probably due to the small quantity of pus present.

The ureteral catheter is valuable not only for what comes through it, but for its use as an x-ray landmark when its stylet is left in place. Its use is not, in any event, without danger to the healthy kidney.

Report upon this case June 2nd, patient apparently in perfect health. Examination of urine, same date, normal in every particular.

Case V. **Adhesions about biliary tract, with attacks of biliary colic.** (Dec. 7.) Mrs. D., aet. 35.

Family history negative. Menses began at 10; flow excessive. Married at 14; first child at 15. Had typhoid fever for 3 months at 26. This was preceded by miscarriage and followed by inflammation of the bowels. (The probability is that instead of typhoid fever she suffered sepsis following miscarriage, which resulted in general peritonitis.) Apr. 30, 1904, the uterus and its appendages were removed because of double pyosalpinx and metritis. The most marked symptoms before the hysterectomy were aching in the top and back of head and tenderness in lower abdomen and epigastrium, profuse leucorrhoea, constipation, dyspepsia, and insomnia. Her temperature when first seen was 102. Her condition is so far improved that she returns with temperature, blood, and urine normal; but she has occasional severe attacks of cutting pain in the epigastrium and right hypochondrium, lasting one-half to one hour, during which attacks she sometimes faints. This is followed by dull aching pain for 2 or 3 days, referred as well to the right shoulder-blade. (This colicky pain is not due to over-distention, inflammation, neoplasm, nor flexion alone, but indicates the passage of a concretion into or through the duct.) Patient always vomited during these attacks. There was marked hyperaesthesia over the area of the gall-bladder. Chilly sensations were frequent with moderate elevations of temperature, and the attacks were followed by jaundice. No tumor can be determined. From the above symptoms it would appear that there are, or at least have been, calculi present. Moreover the patient says that such have been found in the feces. Stones may be present in the gall-bladder without producing symptoms, but when forced into the ducts symptoms similar to the above are presented.

Incision, 8.5 cm. in length, parallel to the costal margin, disclosed adhesions of stomach to anterior abdominal wall, and adhesion of gall-bladder throughout its entire length to duodenum. All adhesions were freed, the gall-bladder drained and suspended to abdominal wall. No gall-stones were found. I think concretions must have passed through the duct to have caused the colic. Her recovery was uneventful; the highest temperature was 99.8 and highest pulse rate, 100. On Dec. 24th she was sitting up. Wound healed by first intention, except where drainage-tube passed. Drainage wound completely closed Dec. 30th.

Attempts should not be made to close drainage opening from an

infected gall-bladder. Nature will close it as soon as result of infection, i. e., thickening of mucous membrane, is relieved. Until such time drainage is desirable. Report from her physician, dated May 20th, 1905, says she has gained about twenty pounds in weight and appears well. She complains of discomfort in the region of the gall-bladder only when she over-works. (*To be Continued*)

AMERICAN CLIMIATOLOGICAL SOCIETY, ANNUAL MEETING.

Provisional Program—Detroit, June 29-30.

President's Address.....Dr. W. F. R. Phillips, Washington, D. C.

1. Health Resorts in Southern California; Personal Experience.... .....Gen. C. H. Alden, U. S. A., Ret'd, Newtonville, Mass.
2. Climate of the East Coast of Florida..... .....Dr. Franz Trenton-Smith, Washington, D. C.
3. Relations of the Practitioner to the Physician at Health Resorts.....Dr. C. W. Richardson, Washington, D. C.
4. Haemoptysis in Cardiac Diseases..Dr. Roland G. Curtis, Philadelphia
5. Blood Pressure at High Altitudes..... ..Dr. C. F. Gardiner and Dr. H. W. Hoagland, Colorado Springs
6. The Influence of Climate upon Gout....Dr. C. C. Ranson, New York
7. Permanency of Results in the Treatment of Pulmonary Tuberculosis; the After History of Twenty-seven Cases Treated by the Combined Hygienic-Dietetic, Open-air, and Tuberculin Treatment.....Dr. F. M. Pottenger, Los Angeles
8. The Sea-air Treatment of Tuberculosis of the Bones and Glands in Children. Illustrated by Lantern Slides..... .....Dr. John Winter Brannan, New York
9. Respiratory Movements of the Bronchial Tubes..... .....Dr. E. Fletcher Ingals, Chicago
10. Some New Points of Least Resistance in the Consumptive..... .....Dr. Thomas J. Mays, Philadelphia
11. Pneumonia in the Negro....Dr. Thomas D. Coleman, Augusta, Ga.
12. An Unusual Case of Anthracosis, Mistaken During Life for Aortic Aneurysm.....Dr. Henry Sewall, Denver
13. The Preventive and Remedial Treatment of Acute Rheumatic Endocarditis. Discussion....Dr. Beverly Robinson, New York
14. Paper.....Dr. Samuel A. Fisk, Brimfield, Mass.
15. Paper.....Dr. Thomas Darlington, New York
16. An Inspection of the Eastern State Penitentiary, Pennsylvania, with Reference to Tuberculosis..... .....Dr. Guy Hinsdale, Hot Springs, Va.
17. Immobilization of One-half the Thorax with the Author's Completed Scheme for Preparing and Applying Traction Plasters to Arrest Pulmonary Hemmorrhages, to Relieve Pleurisies and to Contract Lung Excavation..Dr. Charles Denison, Denver

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DETROIT MEDICAL JOURNAL

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Vol. 5. DETROIT, MICHIGAN, JUNE, 1905. No. 3.

"Imprisonment at Hard Labor and Typhoid Fever."

The imprisonment of the English soldiers in the Black Hole of Calcutta has stood for a generation as a type of extreme cruelty to prisoners. It was doubtless unintentional, so far as its extremes reached; it was an accident of war. Far more reprehensible seems the deliberate neglect of responsibility in the piping times of peace. Such was the infection of diphtheria antitoxin with tetanus in the St. Louis City Laboratory, not long ago. In this connection the following editorial from the Jackson Patriot of May 21st, is noteworthy. It seems to have been literally true that for years the state of Michigan sentenced criminals to "imprisonment at hard labor and typhoid fever." We are glad to print this, for two principal reasons: first, because of its medical interest to the State, and, second, because it is an unusually good lay editorial on a professional subject:

AN INSTANCE OF PREVENTION.

No scientific fact is more positively established than that such diseases as typhoid fever are bred of dirt and perpetuated by neglect and ignorance. If the surroundings be controlled, they are absolutely preventable. Within a few years an example has been furnished, right here in Jackson. For many years there was no time in which typhoid fever was not prevalent at the prison. Occasionally there were as many as forty or fifty cases in the hospital at one time. Of course, search was made for the source of the persisting epidemics—that is, in recent years, when mankind began to realize that such afflictions could not be laid at the door of a malevolent deity. One theory was that typhoid fever was inseparable from prisons because the prisoners were continually subject to infection from the unsanitary jails which were the previous residences of most of the gray brethren, and this was generally accepted. A particularly bad epidemic was one time traced to the ice supply, which was found to come from a clay-hole north of the prison, which served as a cesspool for a family which had been afflicted with the disease. For long years the evidence of the nose—the proof furnished by the foul smell which always permeated the prison—was disregarded. It was calmly accepted as part of the prison life—as necessary as part of the process as the "prison pallor" and the zebra stripes.

The present administration could not understand why a prison should necessarily smell bad, and began looking after the drains. Soon is found a sewer, running from the "oid west wing," which was the place where the worst and most persistent of the epidemics prevailed. The old sewer had become clogged up, and someone had closed the opening, and it had been forgottn. But it furnished an admirable apparatus for the propagation of disease.

After it was taken out there was less of the fever, but still a great deal. Finally it was decreed that the old cell block should be demolished. Then the secret

source of hundreds upon hundreds of cases of typhoid—the cause of hundreds of deaths from that disease in the years of the prison's history—was revealed. The cells, built tier upon tier, had been originally floored with oak planks. In the course of years these had rotted away, as a result of the frequent scrubbings with which the vermin were combated. Then, instead of removing the old planks, new ones were laid over them. The wash water and the horde of prison inmates not enrolled on the official register found congenial homes in the crevices between these layers of planks, and the smells increased and multiplied. After more years another flooring was laid on top of the second. In some instances the men demolishing the block found four floors superimposed on each other, and the mass of filth stirred up was indescribable.

"The men tearing up the old floors needed strong stomachs to stand it," said an official.

Still, for years the state of Michigan had been crowding men into "holes in a wall"—stone cells, maybe a very little more than three feet wide, and with a floor and roof such as described. There was no ventilation; a filthy wooden bucket was the nearest approach to a "sanitary toilet appliance." They had died by scores. while the experts, if they thought at all, considered such matters inevitable concomitants of prison "life," or laid the fault at the doors of the county jail keepers.

Assuredly, the people of the state of Michigan never intended to impose a sentence of imprisonment at hard labor and typhoid fever. Nevertheless it has required years to bring a realization that just this had been done. For with the removal of the sewer and the demolition of this old cell block went the disease. And now for months there has not been a single case of this sickness.

The State Meeting.

Many factors combine to make the announcement of the coming annual meeting of the State Medical Society an attractive one. The place itself, Petoskey, is well worth the trip in June. The vigor and success of the Society at present make a large attendance probable, and one will see and make many professional friends. The program itself contains many of the representative names of the profession in the State, and Dr. J. Wesley Bovee, of Washington, will address the section on Obstetrics and Gynecology. The question with every doctor who pretends to keep abreast of his profession should be, not, Can I afford to go? but, Can I afford to miss it?

The Legislature.

The news reaches us just as we are going to press that in the last few crowded days of the session of the Michigan Legislature they passed two bills which are of especial interest to the medical profession. The first one was the bill reducing the time in which a suit may be brought against a physician for malpractice to not more than two years later than the alleged malpractice. This bill was passed largely through the efforts of Dr. Frank B. Tibbals, of Detroit.

The other measure was the establishment of a Sanatorium for cases of incipient tuberculosis. For this purpose, $30,000 was appropriated. An immense amount of pressure had been brought to bear upon the legislature by the committee in charge of this bill, and many agencies throughout the State, and it passed both the Senate and House unanimously.

Editorial comment upon these two bills will be made later.

EDITORIAL NOTES

The Philadelphia Board of Health is conducting extensive experiments with paper milk bottles. Preparations are being made for their production on a large scale.

Dr. Leartus Connor, Dr. A. P. Biddle, Dr. W. P. Manton, Dr. Guy L. Connor, all of Detroit; Dr. Sawyer, of Hillsdale; Dr. Ward, of Owosso, and Dr. C. B. Burr, of Flint, spoke at the banquet of the 6th. District Medical Society in Durand on May 11th.

Candidates for the Michigan National Guards Medical Staff will hereafter be appointed from those who have passed an examination for positions on the medical staff. The Board of Medical Examiners of three officers is to be appointed by the Adjutant General.

Dr. Geo. M. Gould, the well-known medical author and editor of American Medicine, has added the public lecture platform to the list of his activities. The lecture which he is delivering at present before mixed audiences is entitled, "History of the House and Its Relation to Health."

The Ingham County Medical Society had its meeting in Leslie on May 18th. They listened to an address on "The Newspaper and the Doctor," by Dr.R. B. Shank The amount of publicity given the physicians' names in connection with important events, and directing the Secretary of the Society to publish a scrap-book of all items published in the newspapers, containing the names of Ingham County physicians. This scrap-book will be read at the Ingham County Society and any physician whose name appears with any connection with any newspaper, will be invited to explain to his colleagues why he has been a party to this publicity. Dr. A. E. Bulson. of Jackson, also addressed the meeting.

Wayne County Medical Society.

On May 15th, the following officers were elected to serve next year: President, Dr. Albert E. Carrier; Vice-President, Dr. Chas. D. Aaron; Secretary-Treasurer, Dr. Wm. J. Stapleton, Jr.; Board of Directors—Drs. F. B. Tibbals, H. W. Longyear, H. O. Walker, C. W. Wagner, and W. F. Metcalf.

Surgical Section: Chairman, Dr. L. J. Hirschman; Secretary, Dr. Ray Connor.

Medical Section: Chairman, Dr. W. M. Donald; Secretary, Dr. H. S. Olney.

Directors of Defense League: Drs. J. Flintermann, F. W. Mann, F. B. Tibbals, H. W. Longyear, W. F. Metcalf, Guy L. Kiefer.

The last meeting of the Society for the year was held May 29th, when Dr. C. W. Hitchcock read a paper on "The Classification of Insanity."

Michigan College of Medicine Alumni Clinic.

The Annual Alumni Clinic Week of the Michigan College of Medicine and Surgery, held May 13-20, was the most successful ever held, both from an educational and social standpoint. The attendance ran from twenty-five at the opening to over three hundred during the latter part of the week. The attendance of men from out of town was marked, for the week is especially planned for them and it is a source of gratification to have them with us.

The program opened with an address of welcome by the president of the Alumni, Dr. Burton Parker, who spoke on the duties of the Alumni. Following him came Prof. Frank T. Lodge in a talk on "Professional Success."

Next was a surgical clinic by Dr. Hal C. Wyman, who exhibited some very interesting cases—during his two surgical clinics Prof. Wyman had two cases a little out of the ordinary. One a laminectomy on a man who had jumped from a third story window, with suicidal intent, causing complete paralysis from the waist down. He was then removed to a retreat for alcoholics, where he lay for four weeks developing a large bed-sore upon the buttocks. When brought to the hospital he was in a poorly-nourished condition. He was operated upon and pressure removed.

Another interesting case was one diagnosed as tubercular disease of the intestine—girl had been ill more or less from childhood, pain localized in right side. The operation showed an inflammatory condition of the appendix, with a large

tack firmly fixed in the appendix. (This case will be reported fully in the Journal.)

Dr. E. B. Smith had a large clinic in fractures in which he demonstrated the methods taught to the students of the Michigan College of Medicine.

Prof. Gibbes gave two lectures, one on kidney diseases, and a second, in which he gave his ideas on the treatment of tuberculosis. He had a very large and attentive audience.

Drs. Hackett and Aronstam held a large clinic in skin and venereal diseases, in which the different methods of treatment, such as the Finsen light, etc., were demonstrated.

In the eye and ear clinic, an unusual number of cases was presented and numerous operations performed by Drs. Poole, Maire, Cornell and Sanderson.

In the lecture and clinic on nervous diseases, Drs. Parker and Bell had some interesting cases, varying from acute alcoholism to mania. This subject was especially well covered on account of the number of cases of this kind handled at Emergency Hospital. If space would admit, there were many other most interesting cases that could be given.

The social features were most enjoyable, consisting of class reunions, theater party, the guests of Nelson, Baker & Co., an inspection of the Malt Extract Dept. of the Goebel Brewing Co., followed by a lunch. Smoker and dinner, as guests of Parke, Davis & Co., with a visit to their laboratories, and a lunch by Frederick Stearns & Co.

The annual Commencement Exercises were held at the Detroit Opera House Friday, May 19th, 1905, at which a class of twenty-six graduated.

In the evening the annual banquet was held at the Wayne Hotel.

Everyone who attended was very much pleased over the program.

WILLIAM J. STAPLETON, JR., M. D.,
Clinical Asst. in Surgery, M. C. M. S.

MICHIGAN STATE MEDICAL SOCIETY ANNUAL MEETING

PETOSKEY, JUNE 28-29-30.

GENERAL PROGRAM.

THE NEW ARLINGTON.

President—D. B. HARISON, Sault Ste. Marie.
General Secretary—A. P. BIDDLE, Detroit.

WEDNESDAY, JUNE 28th.

10:30 A. M.

1. Call to order.
2. Prayer.....REV. F. R. GRODOLPHIN.
3. Address of Welcome.....HON. GEO. E. REYCRAFT, Chairman
4. Report of Committee on Arrangements.....J. J. REYCRAFT, Chairman
5. Report from the House of Delegates.....
   .....A. P. BIDDLE, General Secretary
6. Report of Michigan Member of Committee on Transportation, A. M. A.....F. W. ROBBINS, Detroit; Chairman
7. Address of the President.....D. B. HARISON, Sault Ste. Marie
   "The Present Status of the Medical Profession in Michigan."
8. Miscellaneous Business.
   (a) Nominations for President.

Adjournment.

8 P. M.

Scientific Exhibit.

Lantern Slide Demonstration on "Tissue-bits in the Stomach-washing and Their Aid to Diagnosis."

A. S. WARTHIN, and D. M. COWIE, Ann Arbor

X-ray Slides of "Diseases of the Gastro-Intestinal Tract."

P. M. HICKEY, Detroit

THURSDAY, 9:30 P. M.

Entertainment by the Emmet County Medical Society.

10:30 A. M.

1. Unfinished Business.
2. Report of Committee to secure data regarding the Prevalence of Venereal Diseases in Michigan.....A. E. CARRIER, Detroit, Chirman
3. Oration on Surgery.....F. B. WALKER, Detroit
   "Surgery and Human Welfare."
4. Oration on General Medicine....COLLINS H. JOHNSTON, Grand Rapids
   "The Administrative Control of Tuberculosis."
5. Miscellaneous Business.

Adjournment.

Banquet at the New Arlington.

6 P. M

FRIDAY, JUNE 30th.

10:30 A. M.

1. Unfinished Business.
2. Report from the House of Delegates.....
   ..... A. P. BIDDLE, Detroit, General Secretary
3. Oration on Obstetrics and Gynecology.....
   .....RICHARD R. SMITH, Grand Rapids
   "Is Gynecology to Remain a Separate Specialty?"
4. Miscellaneous Business.

   At 12 o'clock the Committee on Nominations will announce the result of the ballot for President.

Introduction of President-Elect.

Adjournment.

Section of General Medicine.

THE NEW ARLINGTON.

Chairman, JOHN J. REYCRAFT, Petoskey.

Secretary, H. B. BRITTON, Ypsilanti.

FIRST DAY, WEDNESDAY, JUNE 28th.

1:30 P. M.

1. Why Surgical Fixation of Movable Kidney Will Not Relieve Dyspeptic and Nervous Symptoms.....CHAS. D. AARON, Detroit
2. The Value of Rectal Exploration as an Aid to Diagnosis in Diseases of Children....LOUISE ROSENTHAL-THOMPSON, Traverse City

3. Ascending Neuritis.....Wm. J. Herdman, Ann Arbor
5. Venereal Prophylaxis.....Albert E. Carrier, Detroit
6. Some Difficulties in the Diagnosis of Syphilis.....
.....James E. Breakey, Ann Arbor
7. Dispensing Physicians.....H. B. Garner, Traverse City

SECOND DAY, THURSDAY, JUNE 29th.

1:30 P. M.

1. A New Method for the Withdrawal of Pleural Effusisons.....
.....W. M. Donald and R. E. Mercer, Detroit
2. Skiagraphy of the Chest, Illustrated.....P. M. Hickey, Detroit
3. The Medical Inspection of Schools.....Guy L. Kiefer, Detroit
4. Infant Mortality in Michigan.....Herbert M. Rich, Detroit
5. Indigestion in Infancy and Its Relation to Summer Diarrhea.....
.....Chas. Douglas, Detroit
6. Asthma and Hay Fever.....R. B. Armstrong, Charlevoix
7. Intestinal Antisepsis. Report of a Series of Experiments on Animals .....S. Edward Sanderson, Detroit

THIRD DAY, FRIDAY, JUNE 30th.

1:30 P. M.

Election of Orator, Chairman and Secretary (for two years) of Section.

1. Psychotherapeutics of Neurasthenia.....Jeanne C. Solis, Ann Arbor
2. Neurasthenia .....C. W. Hitchcock, Detroit
3. Traumatism and Shock as a Factor in the Production of Nervous and Mental Diseases.....Samuel Bell, Detroit
4. Psychology in Medicine.....W. E. Newark, Charlotte
5. Intermittent Claudication.....Johann Flinterman, Detroit
6. The Physiological and Chemico-physical Action and Effect of Mt. Mt. Clemens Mineral Baths....Richard Leuschner, Mt Clemens
7. Report of 105 Conservative Cases of Typhoid Fever. *With Special reference to Diagnosis, Complications and Treatment*....
.....R. S. Rowland, Detroit

Section on Surgery, Ophthalmology and Otology.

THE NEW ARLINGTON.

Chairman—E. C. Taylor, Jackson.
Secretary—John W. Moore, Atlantic Mine.

WEDNESDAY, JUNE 28th.

1:30 P. M.

1. Thrombosis of Anterior Tibial Artery in Gunshot Wound.....
.....L. W. Gardner, Harbor Springs
2. The Intestine Surgically Considered, with special reference to its Sterilization. A new Open Method for Lateral Anastomosis
.....S. Edward Sanderson, Detroit
4. Treatment of Ophthalmia Neonatorum.....Eugene Smith, Detroit
5. The Recognition and Management of Acute Mastoiditis by the General Practitioner .....Leartus Conner, Detroit

6. Overlooked Anomalies of the Eye, with Pronounced Nervous Reflexes..... A. E. BULSON, Jackson
7. Disorders from Eye-Strain.....O. A. GRIFFIN, Ann Arbor
8. The Methods of the Total Opening of the Middle Ear (so-called Radical operation) with Stacke's Method (Illustrated).... ..... EMIL AMBERG, Detroit

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THURSDAY, JUNE 29th.

1:30 P. M.

1. Diagnosis and Treatment of Empyaema of the Chest..... .....A. I. LAWBAUGH, Calumet
2. Wound Infection Resulting from the Use of Etage Sutures.... .....S. C. GRAVES, Grand Rapids
3. Bladder Neoplasms. Why so generally hopeless.F. W. ROBBINS, Detroit
4. Treatment of Compound Fracture with Crushing of the Soft Parts .....W. T. DODGE, Big Rapids
5. Statistics of Cancers and Tumors.....T. A. MCGRAW, Detroit
6. The Avoidance of Traumatism during Physical Examinations... .....ALEXANDER MACKENZIE CAMPBELL, Grand Rapids
7. A Few Results of Roentgen-Ray Therapy, with Report of Cases .....CONRAD GEORGE, JR., Ann Arbor

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FRIDAY, JUNE 30th.

1:30 P. M.

Election of Orator, Chairman and Secretary (for two years) of Section.

1. Ulcerations of Ano-Rectal Region.....LOUIS J. HIRSCHMAN, Detroit
2. Gangrene of the Scrotum.....A. W. HORNBOGEN, Marquette
3. Report of Four Cases of Cholecystectomy with Specimens..... .....H. O. WALKER, Detroit
4. A Preliminary Note on on the Sterilization and Absorbability of Catgut..C. B. NANCREDE, C. F. TENNEY, F. R. WALDRON, Ann Arbor
5. Do Patients die from Paralysis or Mechanical Obstruction of the Bowels following Laparotomy.....F. J. W. MAGUIRE, Detroit
6. Congenital Bilateral Fusion of upper end of Radius with Ulna.....W. E. BLODGETT, Detroit

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Section on Obstetrics and Gynecology.

THE NEW ARLINGTON.

Chairman—A. N. COLLINS, Detroit.
Secretary—FLORENCE HUSON, Detroit.

FIRST DAY, WEDNESDAY, JUNE 28th.

1:30 P. M.

1. Relation of the Physician to his Pregnant Patient..... .....W. P. MANTON, Detroit
2. The Technique of Labor.....WALTER HUME SAWYER, Hillsdale
3. The Uses and Abuses of the Obstetric Forceps..J. J. MULHERON, Detroit
4. Accouchment Forcê.....EDWARD T. ABRAMS, Dollar Bay

5. Placenta Praevia .....G. W. NIHART, Petoskey
6. Puerperal Sepsis .....WM. F. METCALF, Detroit

THURSDAY, JUNE 29th.

1:30 P. M.

1. Ligament Operations for Uterine Retrodisplacements.....
.....**J. Wesley Bovee,** Washington, D. C.
2. A New Method of Shortening the Round Ligaments.....
.....J. H. KELLOGG, Battle Creek
3. Vaginal and Uterine Prolapse.....J. H. CARSTENS, Detroit
4. Abdominal versus Vaginal Route for Intra-Abdominal Conditions in the Female .....WILLIAM BISHOP, Bay City
5. Congenital Umbilical Hernia.....H. WELLINGTON YATES, Detroit
JAMES E. DAVIS, Detroit
6. Post-operative Femoral Phlebitis—With Special Reference to the Prognosis.....BENJAMIN R. SCHENCK, Detroit
7. Tubercular Peritonitis .....J. G. LYNDS, Ann Arbor

FRIDAY, JUNE 30th.

1:30 P. M.

Election of Orator, Chairman and Secretary (for two years) of Section.

1. Ectopic Gestation .....JAMES W. MCMEEKIN, Saginaw
2. The Frequency of Ectopic Gestation.....JAMES A. KING, Manistee
3. A Case of Late, Posterior, Mesometric Pregnancy.....
.....H. W. LONGYEAR, Detroit
4. Ectopic Pregnancy .....W. K. WEST, Calumet
5. Important Factors in the Success of Abdominal Operations....
..... LOUIS J. HIRSCHMAN, Detroit
6. Dilatation of the Cervix Uteri.....S. EDWARD SANDERSON, Detroit

MISCELLANEOUS.

All meetings are held on Central Standard Time at the New Arlington.

The Scientific Exhibit will be found in the New Arlington.

The Exhibits will be found in the New Arlington.

All meetings will be called to order promptly on time.

Each member in attendance shall enter his name in the Registration Book, indicating the County Society of which he is a member. Please do not fail to register upon arrival at the New Arlington.

Only members who are registered are entitled to vote.

The ballot box for the election of President will be found at the New Arlington at the place of the General Meetings. The polls will close at 12 o'clock noon, June 30th.

HOTELS.

New Arlington (Headquarters)	$2.50 to $4.00
Cushman	2.50 to 3.50
Perry	2.50 to 3.00
Imperial	2.50 to 3.00

REDUCED RAILROAD RATES.

One and one-third fare for the round trip.

When conventions of regularly organized Societies are held in Michigan, at which not less than one hundred persons are in attendance, who present certificates issued by the line of this and the Central Passenger Association, or lines of other Passenger Associations co-operating with the same, certifying that they have paid full fare of not less than 75 cents each to the place of meeting, the return of such parties is authorized at one-third the first-class limited fare, via the

route traversed in going to the meeting, provided the rules are complied with and the Secretary of the Convention fills in the certificates at the point at which the Convention is held, certifying that the holders thereof have been in actual attendance upon the Convention.

Tickets for return journey will be furnished only on certificates dated not more than THREE DAYS before the date the Convention assembles, or more than TWO DAYS after the first day of the meeting, and presented within THREE DAYS after its adjournment (it is understood that Sunday will not be reckoned as one of the three days either before the opening date or after the closing date of meeting), and all return tickets will be for continuous passage; no stop-over privileges being allowed on tickets sold at less than regular unlimited fares.

Blank Certificates are kept on hand by Ticket Agents of all lines in the lower peninsula of Michigan, and will be furnished by them upon application at the time tickets are purchased.

"No refund of fare can be expected because of failure of the parties to obtain Certificates."

A charge of 25 cents will be made at the meeting at Petoskey by Special Agent for each certificate issued by him.

PROGRESS OF MEDICAL SCIENCE

Origin of Syphilis.

Although the introduction of syphilis among Europeans is of comparatively recent date, its history is shrouded so mysteriously that we can only guess at its origin. Even the etymology of the word is obscure. Some derive it from the Green "syn" with, and "philos" love, but there is much doubt about this. The word, as far as can now be learned, was first used in 1530, as the title of a poem by Hieronymis Fracastorius, an Italian physician, and a man of such great culture and elegance of Latin style that he almost merited his epithet of "The Divine."

There is a fable that the disease dated from the siege of Naples (1494), when the besieged Spanish garrison, comprising some of the crew of Columbus, infected the French army, who in turn rapidly scattered it throughout Europe; hence the common name, morbus neapolitanus, after the place of its birth. Probably both names show only the racial antipathies of mud-throwing patriots.

It is interesting to note, in view of some more modern ideas of syphilis, that Paracelsus attributed the origin to the intercourse of a leper with a prostitue, and that Fallapius informed the professional world that the original epidemic of the "French disease" came from wine, which the Spaniards, in the siege of Naples, had poisoned with the blood of a leprous soldier. When the besieging and victorious French took possession of the city, they drank freely of the luscious wine, and soon after developed typical symptoms of venereal disease. Even our own Chancellor, Lord Bacon, averred that in this famous siege the French ate human flesh, which had been prepared from men killed in Barbary, where the people consume large quantities of fish. And so the theories of the close relationship between syphilis, leprosy and fish are not at all modern.

There is no doubt that venereal diseases contracted from individuals of a remoter race, are some markedly severe and much more destructive in their type than those contracted from persons of the same nationality. The chancres of the wharf districts of large cities are always bad because females of those localities enjoy continuous patronage of the foreign sailors and refugees—the dregs of other countries. And so there may be a grain of truth in the fable to which we referred. It may be that syphilis, in a very mild form, was comparatively common all over Europe, but that the fresh inoculation, brought back from America, and so freely scattered about during the siege of Naples, gave a new vigor to the disease, which attracted the attention of physicians, and caused them to mistake it for a new infection. (Canadian Practitioner and Review.)

The Effect of Hysterectomy on the Sexual Function.

Vineberg (Medical News, Dec. 31, 1904) concludes from a review of the literature supplemented by his personal observations, that removal of the uterus and appendages has little or no effect upon the sexual feelings. If a woman were capable of enjoying intercourse prior to operation, sexual pleasure is unimpaired thereby. If, however, the operation becomes necessary in a patient whose sex-

ual appetite is unaroused no appreciable post-operative change in this regard is noted, although the removal of inhibitive factors may occasionally result favorably.—F. B. TIBBALS, M. D.

The Diagnosis of Gall-Stone Disease.

W. J. & C. H. Mayo, Clinical Review, May, 1905.

In 1,100 operations for gall-stone disease there was a mortality of 5 per cent. In 897 of these cases, where the disease was benign and confined to the gall-bladder, the mortality was 3 per cent. In 456 cases of simple gall-stone disease the mortality was less than .55 per cent, while in 43 malignant cases it was 21 per cent. The difference in these figures is an effective commentary on the danger added by obstruction, infection, and malignancy. Hence the responsibility of the physician in diagnosing early and advising surgical treatment.

Gall-stones are probably the result of cholecystitis, which in turn is caused by bacterial infection descending from the liver. An artificial division of symptoms into five stages facilitates description. First, simple gall-stone colic, epigastric and radiating pain, lasting from minutes to hours, without elevation of pulse or temperature, and on cessation leaving the patient well. Second, with obstruction at pelvis of gall-bladder, there is the same colic, but it leaves more or less tumor and tenderness, with slight increase of pulse and temperature. Third, with contraction of gall-bladder there ensues absorption of its contents and local plastic peritonitis, which often impairs common-duct drainage and produces an evanescent jaundice. This stage induces the chronic gastric phenomena so often wrongly diagnosed. Fourth, stone in the cystic duct, causing sudden attacks of fever with pain that is usually of considerable duration, and occasional temporary jaundice. Fifth, the stone passes into the common duct, and there is irregular fever, chills, pronounced jaundice, with remissions and exacerbations.

With increased chronicity, changes develop in the gall-tract walls and the pancreas, with loss of weight and anemia. As regards jaundice, it "has no part in the diagnosis of gall-bladder stone, and when present means a complication," either cholangitis, or obstruction of common duct by infection, adhesions, stone, or neoplasm. In conclusion, "it is a false conservatism which stands in the way of early operative interference in gall-stone disease."—C. S. Oakman.

Treatment of Gonorrheal Ankylosis of the Wrist.

Nélation (Rev. d'Orthopédie, Jan., 1905) reports a case of ankylosis of the wrist from gonorrheal arthritis, in which resection of the proximal row of carpal bones, and later resection of all the remaining bones of the carpus and interposition in the resulting bony gay of a thong stripped from one of the radial tendons, but still attached at the top were both ineffectual, in spite of massage and movements, to prevent return of the rigidity. In a similar case, on the contrary, resection of the first carpal row and interposition of a tongue of muscle tissue, with perfect hemostasis, resulted in normal mobility and good muscular control, so that finely co-ordinated movements were possible. In this case, a dorsal incision was made between the extensor communis digitorum and the radial muscles, and a piece of muscle, the size of the little finger, and 4 cm. long, was reflected down from the outer border of the common extensor, the lower tendinous continuation of the piece being left undivided, and was fixed in the gap by the removal of the first row of bones. Passive movement was commenced after 15 days.

Nélaton concludes from these cases that resection alone would not have produced the permanent mobility of the successful case, and that interposition of live muscle tissue, with perfect hemostasis (to prevent hematoma and organization), is effective to this end.—WM. E. BLODGETT.

The Urinary Sugars of the Pregnant, Parturient, and Lactating Woman.

Commandeur and Porcher (Archives générales de mèdicine, September 6, 1904, p. 2241, and September 13, 1904, p. 2305), report the results of the urinary examinations of 31 pregnant women, whom they have followed with especial care. After giving in detail the physiology of mammary secretion, the technique in their investigations, the historical review of the urinary sugars, and the report of their individual cases, they cite their conclusions, which may be briefly summarized as follows. "Ante-Partum" lactosuria is constantly present in the last weeks of pregnancy. Negative reports are due to faulty technique. It may be considered as a

physiological condition. The lactose of the mammary secretions is formed from the glucose of the circulating blood. The lactosuria results from the development of activity in the mammary gland and is dependent on the hypertonicity of the mammary secretion. Lactose passes into the general circulation and is eliminated by the kidneys. The amount in the urine is usually about 1 gram to the litre. It may reach 2 grams, but rarely more.

"Ante-partum" glucosuria is of two forms. Pregnancy may occur in a person with true diabetes. Here all the usual diabetic manifestations may be present. The child rarely lives to full term, and the mother very frequently dies of diabetic coma shortly after delivery. The second form is a very mild type. No symptoms are referable to the condition. The only change in the urine is the existence of a small amount of glucose which does not increase its spcific gravity. The writers regard this glycosuria as physiological. According to their view, the liver throws an excess of glucose into the circulation in the late weeks of pregnancy, and where the breasts fail to convert all the excess into lactose a certain amount is eliminated by the kidneys. This glycosuria is constantly accompanied by a lactosuria. It occurs usually in primpara and multipara and increases in grade up to full term, when it disappears and gives place to lactosuria alone. This forms seems to have no bad influence on pregnancy whatever.

"Post-partum" lactosuria is more marked than the ante-partum. It is dependent on the activity of the mammary gland and also on a certain degree of stasis. This stasis may be due merely to the fact that the gland secretes more milk than the child requires in the first few days after birth. The maximum grade of the lactosuria is reached from the third to the fifth day after labor. The amount of lactose varies between 1 and 8 grams to the litre.

The writers observed no cases of "lactation" lactosuria, that is, where lactosuria occurs later during the period of lactation. It exists, however. It may occur if, for any reason, the child fails to take the breast properly; also, if there be any obstruction of the milk ducts and occasionally in abscess of the breast. (Amer. Jour. of Med. Science.)

BOOK REVIEWS

How to Cook for the Sick and Convalescent. Arranged for the Physician, Trained Nurse and Home Use. By Helen V. Sachse. Uniform with "A Hand-Book of Nursing. Third edition, revised and enlarged. 335 pages. 4¾x7½ inches. J. B. Lippincott Co., Philadelphia, 1905.

The third edition of this excellent manual reaches us, improved by the addition of a new chapter, "Substitutes for Cane-Sugar.' The important and oftentimes difficult duty of providing a diet for the sick and convalescent is made much easier by access to such a book as this. It is essentially a cook-book. The recipes have all been tried. Classified lists of dishes and of different ways of preparing and serving common articles of food afford a great convenience for the rapid elaboration of a diet. The bok is not only valuable for the doctor and nurse, but would be useful in every family.

Gray's Anatomy. Messrs. Lea Brothers & Co. have pleasure in announcing a new edition of Grays Anatomy, to be published about midsummer, and embodying nearly two years of labor on the part of the editor, J. Chalmers DaCosta, M. D., of Philadelphia, and a corps of special assistants.

Commensurately with the importance of the largest selling medical work ever published, this new edition will present a revision so thorough and searching that the entire book has been reset in new type. In addition to the changes necessary to bring it abreast of the most modern knowledge of its subject, several important alterations have been made with the view of adapting it still more closely to present-day teaching methods, and in fact to anticipate the trend of anatomical work and study.

The illustrations have come in for their full share of the general revision, so that at this writing more than 400 new and elaborate engravings in black and colors have been prepared. Gray has always been noted for its richness of illustration, but the new edition far exceeds anything that has hithertoo been attempted.

No medical text-book has ever approached Gray in sturdy longevity and accumulating strength. Nothwithstanding the many would-be competitors which during nearly fifty years have periodically appeared and endeavored to share its

ever-increasing popularity, this wonderful creation of a genius who lived barely long enough to realize that his work was done—how well he never knew—goes on and one, each succeeding year bringing new friends and strengthening the fealty of the old.

Eye, Ear, Nose and Throat Nursing. By A. Edward Davis, A. M., M. D., Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital and Beaman Douglass, M. D., Professor of Diseases of the Nose and Throat in the New York Post-Graduate Medical School and Hospital. F. A. Davis Company, Philadelphia, 1905.

This exceedingly interesting and well written little volume deserves attention from all practitioners and nurses. It fills a decided demand for definite knowledge upon these subjects. The illustrations show careful work by the publisher and authors. The chapter on medication, or special therapeutic measures, is exceedingly valuable. The instructions on the feeding of infants, who are wearing intubation tubes, should be more explicit and additional details should be added. This volume will do much to impress upon the training schools of our western hospitals the great necessity for special training of our nurses in the care of eye, ear, nose and throat patients. The book should receive the recognition it deserves.

B. R. S.

Maternitas. A Book Concerning the Care of the Prospective Mother and Her Child. By Chas. E. Paddock, M. D., Prof. of Obstetrics, Chicago Post-Graduate Medical School. 186 pages. 5x8. Chicago. C. J. Head & Co., 1905. Price, $1.25.

This small volume is meant to be put into the hands of prospective mothers for their own satisfaction and profit and doctor's relief from trifling consultations. Many such books are on the market—some very good, many fussy and silly. The good ones are very prone to go too far and infringe on many things which are purely the province of the physician and in which delay in calling him may be disastrous. In this respect the present volume is a model. With rare self-restraint, the author has confined himself to the logical limitations of such a book and has made his chapters dignified and interesting, and his statements explicit and forcible. The infant's clothing here described seems to us altogether out of date and unnecessarily complicated, but the average young mother regards her own opinion in this matter to be at least as good as the doctor's, if not better, so that this is the volume's least possible fault.

Diseases of the Eye and Ear. By Arthur N. Alling, M. D., and Ovidus Arthur Griffen, B. S., M. D., New York and Philadelphia, Lea Brothers & Co.

This publication is one of the Medical Epitome Series and it admirably fulfills its aim; that of giving very briefly such of the more salient features of Diseases of the eye and ear as one of the most useful to the undergraduate and to the general practitioner.

The commoner diseases of these organs are briefly touched upon and some of the operations are outlined.

The arrangement of the subject matter, under headings for each paragraph, makes it easy of reference and impressive.

It can be recommended to the student and practitioner beginning the study of ophthalmology and otology as supplying a foundation for more extensive study along these lines.

The book is well printed and attractively bound. D. M. C.

Arneill's Epitome of Clinical Diagnosis and Urinalysis. A Manual for Students and Practitioners. By James R. Arneill, A. B., M. D., Professor of Medicine and Clincal Medicine in the University of Colorado. Physician to the County Hospital and to St. Joseph's Hospital, Denver. 244 pages, with 79 engravings and a colored plate. Cloth, $1.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

This little book is within its limits good. It gives in a few words the essentials of the whole range of clinical laboratory work, practical for those without complete laboratory equipment. Dr. Arneill's statements are accurate, although of necessity much condensed. After reading the book, one wishes that the plan of

the series of which this volume is one, had not limited the author to so small a space, and that he had been permitted to write more fully than he has been able to do. J. S.

A Hand-Book of Nursing. For General and Hospital Use. Revised edition. Published under the direction of the Connecticut Training School for Nurses, connected with the General Hospital Society, New Haven, Conn. 319 pages, 5½x 7½. J. B. Lippincott Co., Philadelphia and London, 1905.

This manual of nursing is one which can be highly recommended. It adheres closely to its title, a quality more often desired than found in text-books on nursing. It is not a medical text-book on medicine, surgery, or obstetrics, but contains directions for carrying out properly the important and gracious labors of a qualified nurse. The chapters could all be profitably read by every woman who undertakes the management of a case of illness in our own household, and especially the one on Nursing in Private Families. The book is a good one to recommend.

Welch & Schamberg on Acute Contagious Diseases. By William M. Welch, M. D., Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases, Philadelphia; and Jay F. Schamberg, A. B., M. D., Professor of Dermatology and of Infectious Eruptive Diseases, Philadelphia Polyclinic; Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases. In one volume of 781 pages, illustrated with 109 engravings and 61 full-page plates. Cloth, $5.00, net; leather, $6.00, net; half morrocco, $6.50 net. Lea Brothers & Co., Philadelphia and New York, 1905.

This large volume of nearly eight hundred pages fills an actual and pressing need in our literature in the way of an adequate treatment of the common acute contagious diseases. The authors have chosen to include under this title only smallpox, scarlet fever, diphtheria, tyhus fever, chicken-pox, measles, and rubella. They speak with authority of personal experience in their field, having had charge of nine thousand cases of smallpox, nine thousand cases of scarlet fever, and ten thousand of diphtheria. Any one who sees a large number of cases of these very acute and often terrible diseases, soon comes to know that the usual text-book descriptions are very meager and inadequate, often based on an absurdly small number of cases. The fight against preventable disease is now well on, and this volume, with its great amount of information, will do much to put its readers into the best condition to participate intelligently in the struggle.

Over three hundred pages are devoted to smallpox and it is easily the most complete monograph on the subject with which the reviewer is acquainted. Its facts ought to be in the hands of every active practitioner. The case made out in favor of vaccination as a means of prevention of smallpox seems unanswerable, and in this connection, the following item is of cheerful interest: "In the Municipal Hospital of Philadelphia, during a period of 34 years, in which time over 9,000 cases of smallpox have been treated, we have not had a physician, nurse, or attendant who has been successfully vaccinated or revaccinated prior to going on duty, contract the disease."

In all the diseases treated a much wider range of discussion than usual concerning complications, pathology and diagnosis, has been given. These are particularly valuable. The diagnosis of the acute contagious diseases is always a matter for great care, as it involves usually much more than the mere well-being of the patient.

The smallpox illustrations are many and excellent. There seems little to criticize about the book, and much to commend, both in inception and execution.

Practical Pediatrics. A Manual of the Medical and Surgical Diseases of Infancy and Childhood. By Dr. E. Graetzer, Editor Centralblatt für Kinderheilkunde. Translated by Herman B. Sheffield, M. D., Instructor in Diseases of Children, New York Post-Graduate Medical School. 544 pages, 6x8½ inches. F. A. Davis Company, Philadelphia, 1905.

This manual in its German original, like the larger one of Professor Fruhwald, of Vienna, was arranged with its topics in alphabetical order, the idea being to furnish the salient facts on a certain point in a brief and rapidly accessible form. No doubt such a volume finds its field of usefulness. The translator, however, has grouped the topics in the usual order of text-books on pediatrics and has made his book much less like a dictionary than his German original. The treatment of

topics is brief and well condensed. A very large amount of information has been put into a volume of convenient and pleasant size for use.

The editor's additions are all sound and good—we might almost wish that a much larger proportion of the book were from his pen. A concluding chapter on treatment from the German point of view is stimulating and suggestive.

Diseases of the Skin. Their Description, Pathology, Diagnosis and Treatment with Especial Reference to the Skin Eruptions of Children and an Analysis of 15,000 Cases of Skin Diseases. By H. Radcliff Crocker, M. D. (London), F. R. C. P., Physician for Diseases of the Skin in University College Hospital, etc., etc. **Third Edition,** revised and enlarged. Special Illustrated Edition, with 76 plates and 112 illustrations. 1466 pages, 9x6. In two volumes. Philadelphia: P. Blakiston's Son & Co., 1905.

These two large volumes present by far the most pretentious effort in recent years at text-book making on this subject. Without attempting to produce any such illustrations as those recently published in Jacobi's Atlas, it may unhesitatingly be said that these volumes represent much more value for one's money than an atlas. The illustrations are plentiful and must be admitted to be highly successful, many of them of great excellence.

The classification is as follows: Congestions, Inflammations, Hemorrhages, Hypertrophies, Anomalies of Pigmentation, Atrophies, Neuroses, Neoplasmata, Diseases of the Appendages of the Skin, Hyphomycetic Parasites, Animal Parasites of the Skin. Under these divisions, the author has named an even three hundred diseases of the skin. The redundancy still present in modern dermatologic nomenclature is shown by the fact that ten varieties of erythema are described at length, including E. Larve, E. Paratrimnea and E. Fugax.

The text is extremely readable and satisfactory. The table of symptoms given under each heading is valuable in these days when the great multiplication of names for each disease of the skin is so confusing. The symptoms, variations, and diagnosis are fully described, while more space is given to pathology than in any similar book in English. Complications are described and illustrated by many cases out of the author's wide experience. The chapters on treatment are very full and will be found satisfactory. In the appendix are given a large number of excellent formulae and directions for the clinical examination and staining of Bacilli and Fungi.

RECEIVED:

(Grateful acknowledgement of the receipt of the following is hereby made. Further notice in our review column may be given).

The Ideal of Accuracy in Clinical Work; Its Importance, Its Limitations. By Richard C. Cabot, M. D., Boston. Reprint.

Clincal Examination of the Urine. A Critical Study of the Commoner Methods. By Richard C. Cabot, M. D., Boston. Reprint.

A Systematic Treatise on Materia Medica and Therapeutics With Reference to the Most Direct Action of Drugs. By Finley Ellingwood, M. D., Professor of Materia Medica in Bennett Medical College, Chicago, With a Condensed Consideration of Pharmacy and Pharmacognosy by John Uri Lloyd, Ph. D., Cincinnati. Fifth edition. 811 pages. 6x9½ in. Chicago Medical Times Publishing Co., Chicago.

The Biology of the Microorganism of Actinomycosis. By James Homer Wirght, M. D., Boston. The Gross Prize Essay for 1905. Publications of the Massachusetts General Hospital, Boston. Vol. I., No. 1.

First Aid to the Injured.

The Prevention of Appendicitis. Wm. M. Harsha, M. D., Chicago. Reprints.

The Dangers of Unrestrained Travelling of Consumptives. John W. Trask, Washington, D. C. Reprint.

On the Use in Surgery of Tendons of the Ardeidae and Gruidae. By Alexander W. Blain, Jr. Reprint.

Harrington's Practical Hygiene. A Treatise on Hygiene and Sanitation. For Students, Practitioners, Health Officers, etc. By Charles Harrington, M. D., Assistant Professor of Hygiene in Harvard University Medical School, Boston. New (3rd) edition, thoroughly revised. In one octavo volume of 793 pages, with 118 engravings and 12 plates. Cloth, $4.25, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

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DIETETIC AND MEDICINAL TREATMENT OF NEPHRITIS.—The work of the kidneys is to eliminate certain ingredients from the blood which, if retained, would be injurious, and the health of the kidneys depends a great deal upon the normal condition and the proper work of the liver. There is no doubt but what lithemia and gout are responsible for a large number of cases of nephritis. As rich foods taken in large quantities as well as the use of alcoholic beverages are known to cause nephritic diseases, it is natural that the proper diet is of the utmost importance. A saline combining all the qualities of a reliable hydrogogue, cholagogue and diuretic, such as Kutnow's Improved Effervescent Powder, can not often enough be mentioned in the treatment of nephritic diseases, about which the Medical Press and Circular writes: "The valuable therapeutical properties of the European Mineral Springs and of the salts obtained therefrom have long since been fully established. Patients who have cultivated a taste for elegant pharmaceutical preparations will doubtless be glad to avail themselves of Kutnow's Improved Effervescent Powder, a slightly effervescent and distinctly palatable preparation of the salts prepared directly from the mineral waters. Our analysis proved the presence in due proportions of those salts which have made the natural waters famous and we have no doubt that this pleasant form of indigestion will become very popular with those who are unable to take the waters or the salts. This, like the parent waters, is serviceable in cases of rheumatism, gout and chronic affections of the kidneys."

The Treatment of Menstrual Disorders.

With Special Reference to Caes in Women Suffering from Mental Diseases, by George S. Walker, M. D., Staunton, Va., First Assistant Physician in charge of Female Department Western State Hospital, Staunton, Va., etc.

The connection between disorders of menstruation and disorders of the brain and nervous system has long been an established fact. The dependence of the psychic functions of women upon the menstrual function; the effects of the menopause upon mentality, are all subjects that received the attention of clinicians for many years. It is a well-known fact, correlated to the peculiar connection between the mind and the sexual apparatus, that amenorrhea is not infrequently met with in the insane. The problem as to how to treat insanity is one of the most difficult in therapeutics; and in the modern conception of this treatment all agents that tend directly or indirectly to further the equilibration of the mental functions have a legitimate place.

One of the most difficult phases of this problem is the treatment of the menstrual disorders in insane women, and the importance of correcting any such disorders, in this class of patients is realized by all who are aware of the fact noted by numerous clinicians, that the improvement of the menstrual function leads to a marked amelioration in the mentality of these patients in very many instances.

In an institution like the hospital with which I am connected, we naturally come face to face frequently enough with the question of treating the amenorrhea that is noted as an accompaniment of mental disease, and for a long time I have been experimenting with various therapeutic agents recommended for the treatment of menstrual disorders without obtaining perfect satisfaction from any, until I tried the method of treatment which I am about to describe.

What I was looking for was a safe and efficient emmenagogue, which gave positive results in cases of amenorrhea, dysmenorrhea, and suppressed monstruation, without either exciting or depressing the patient, without causing any disturbances on the part of the digestive tract, or the urinary tract, such as are met with in the use of most of the remedies classed as emmenagogues.

I knew that Apiol, the active principle of Apium petroselinum, Linne (Parsley), was a substance that had been long known to possess marked emmenagogue properties, but that had not been used extensively in this country on account of certain unpleasant after-effects connected with its administration. On investigation, I found that Apiol was first isolated by Joret and Homolle in 1855, and was at first recommended for malaria, as a substitute for that specific of specifics—quinine. Later its emmenagogue virtues became known, but it found far less favor in this country than in France, the American physicians being especially prone to reject any remedy that has disagreeable after-effects. Apiol seemed to me the ideal emmenagogue, and I was even tempted to try it, administering it in some way as to neutralize its irritant action, when I came across a statement in an article on the subject, to the effect that the Apiol of the market, no matter where purchased, was full of a series of impurities, and that the bad after-effects of this drug were due to these impure elements.

The ordinary Apiol of commerce, it seemed, was simply a mixture of impure principles obtained from parsley by extraction. The question was, therefore, to obtain such a preparation of Apiol that eliminates the impurities that do the harmful work of the ordinary preparation. A number of chemists, in various countries have tried to purify Apiol with varying success, but finally, within the last few years a pure product was obtained. It seems that the preparation which contains the purest product obtainable, which was prepared by the new process mentioned, is a pharmaceutical compound known as Ergo-Apiol (Smith). Seeking, as I said, preparation of Apiol which would give satisfactory results in amenorrhea, dysmenorrhea, and suppressed menstruation,

especially in the insane, and that would not produce any undesirable after-effects, I determined to try Ergo-Apiol (Smith), a liquid substance dispensed in gelatin capsules, which contains the pure Apiol described above, and in addition to a combination of emmenagogues that immediately appealed to me as calculated to enhance the efficiency of the whole remedy, namely ergot of rye, oil of savin and aloin.

I selected a series of cases in the hospital, each of which was characterized by a more or less pronounced menstrual disorder of some standing, and administered no other medication for the treatment of the disordered menstruation than Ergo-Apiol. I cite, in illustration, three cases in which the remedy in question was employed. They are only examples of the experience I had with it.

Case I.—Miss V. F. Aged twenty-two years. Was admitted June, 1901. She said that she had not menstruated for nearly a year, and attributed her suffering in body and mind to this fact. She was despondent, and on verge of commiting suicide. The reflex effects of the uterine disturbance were also manifested by the derangement of function in narly all the organs. There was entire loss of appetite and a practical cessation of digestion, accompanied by pain after eating. In October, 1901, I began to give her two capsules of Ego-Apiol (Smith) three times a day until after her expected periods, without any effect. During the month of November I gave her two capsules three times a day, and continued the treatment until December 12th, 1901, when her menstruation returned in a perfectly normal manner. No unpleasant after-effects whatever were noted at any time during this treatment. She improved both mentally and physically during the time of taking this emmenagogue, and her condition was so remarkably ameliorated that she was discharged cured when the menstrual function had been re-established.

Case II.—Miss M. B. S. Aged twenty-four years. Has been suffering from amenorrhea for a year, which persisted in spite of all treatment. She was melancholy, and had a very poor appetite and other disturbances due to her suppressed menstruation. In November, 1901, I began giving her two capsules of Ergo-Apiol (Smith) three times a day. I continued this treatment without any appreciable effect, except that the patient seemed to feel more comfortable, and at certain times during the month she experienced the subjective sensations accompanying the onset of menstruation. Finally, her menses returned on April 21st, 1902. The menstruation was perfectly normal. One week before the next succeeding period I gave her two capsules of Ergo-Apiol (Smith) three times a day, and when the time came for the onset of the flow it appeared in a normal manner. The remedy was continued in doses of one capsule three times a day while the flow lasted. Since the re-establishment of her normal function the patient has gained both mentally and physically, and regained her mental balance and her usual cheerfulness, so that she was discharged cured.

Case III.—Miss L. D. C. Aged fifteen years. A girl of fine physique, who had first menstruated at the age of nine years, but always very irregularly. The menstruation disappeared for a year and then returned. When admitted she was very irregular with a scanty flow that lasted but one day, and was accompanied by severe pain in the head, loins and pelvis. A week before her expected period in January, 1902, I began giving her one capsule of Ergo-Apiol (Smith) three times a day. At the end of one week her menstruation returned, and lasted four days, the flow being normal in amount and accompanied by very little pain. The same treatment was pursued in February, with similarly good results, and from that time on the function was fully established and remained so. There was a marked improvement in both physical and mental condition and she was discharged from the hospital cured.

From my experience with Ergo-Apiol (Smith) and from the experience of a number of other observers, whose findings are published in the literature of the past few years, this remedy represents an emmenagogue of the highest type of efficiency combined with the inestimable advantages of safety, trustwortniness and absence of any unpleasant after-effects. It is probable that Ergo-Apiol owes its efficiency to the particular type of Apiol that it contains, the pure product from which all irritating and injurious impurities have been removed. But it is unquestionably also the accessory remedies, which enter into the combination that contribute to the efficiency of the whole. Ergo-Apiol was easily and agreeably taken by all the patients to whom I administered it, and in no case was there any nausea, eructation, or any other gastric disturbance. Unlike most other emmenagogues, it requires only small doses continued for a comparatively short time to bring about the desired therapeutic effects. Ergo-Apiol (Smith) has not only a stimulating effect upon the menstrual function in amenorrhea, but also a tonic effect upon the muscle fibres of the uterus, for after it has been administered for a few months, the uterus is almost always able to resume its function without any further aid from external sources.

In conclusion, I may note the fact that the treatment of amenorrhea in the insane is always a matter of greater difficulty than in persons with normal minds, and that a remedy that produces perfect therapeutic results, such as I have noted with Ergo-Apiol (Smith) in insane women, may be expected to perform the same services even more promptly in the average case of amenorrhea as met with in ordinary family practice. This is proved conclusively in the numerous cases reported by various observers who employed Ergo-Apiol (Smith) in menstrual disorders, and a partial list of whose publications appear in the annexed bibliography. Ergo-Apiol in the shape of capsules administered three times daily in doses of one or two, beginning a little before the expected menses, and continuing through the period, has proven the most efficient, prompt, safe, and pleasant emmenagogue that I have ever employed. My experience with the drug was such as to lead me to adopt it as a routine treatment in amenorrhea.

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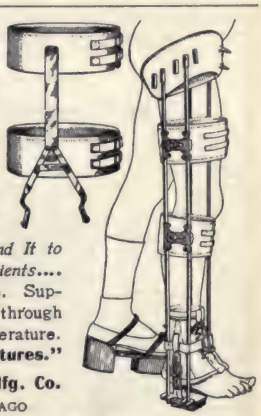

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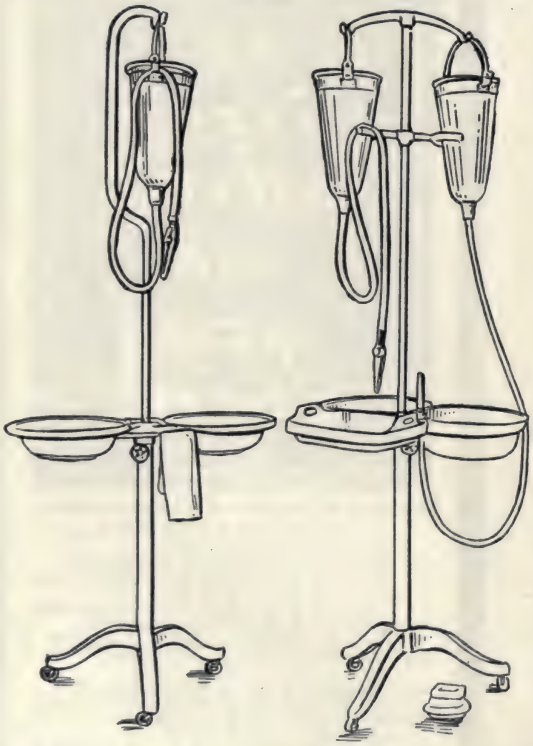

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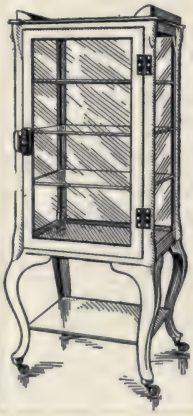

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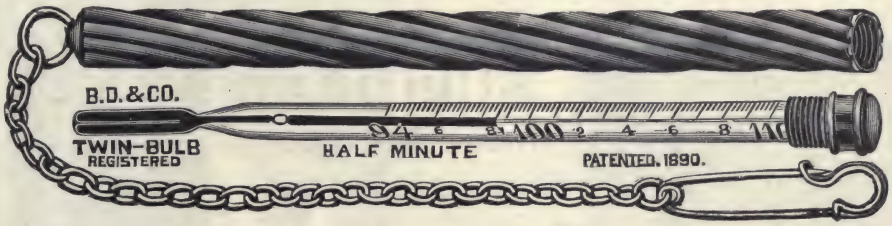

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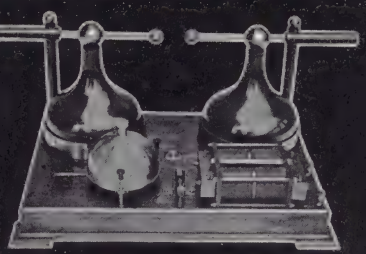

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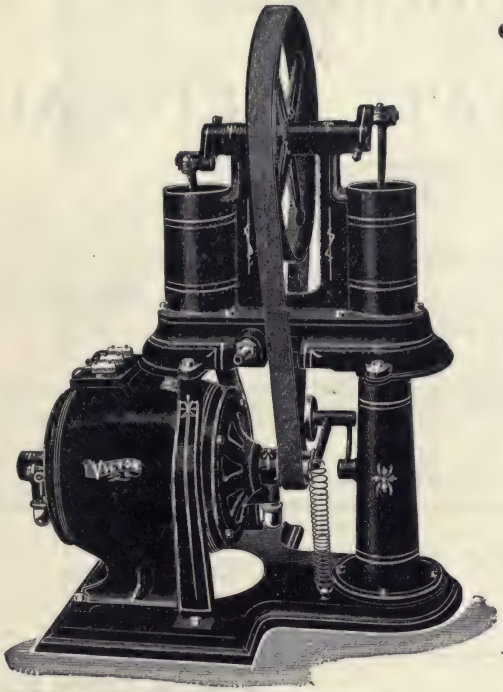

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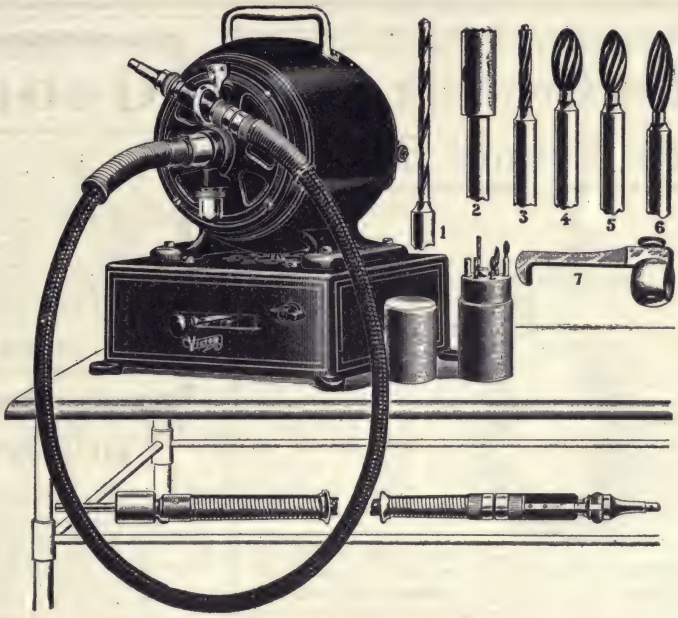

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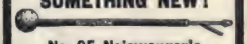

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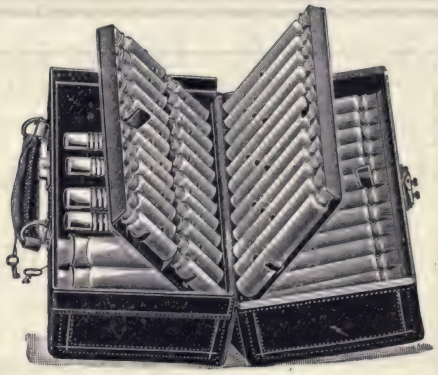

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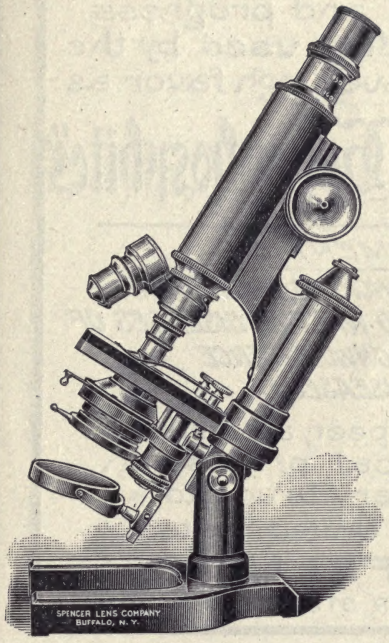

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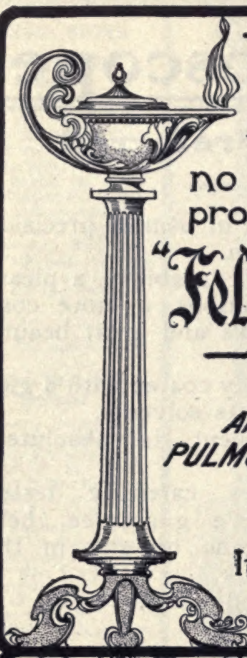

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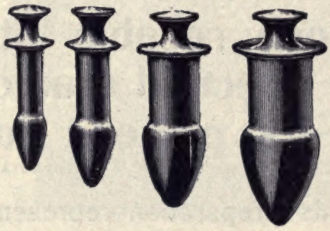

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